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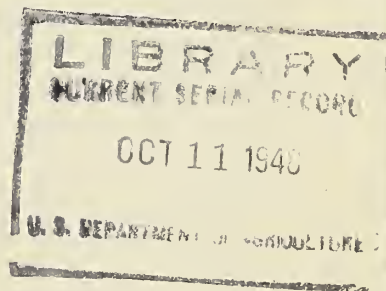
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UNITED STATES DEPARTMENT OF AGRICULTURE
WASHINGTON, D. C.

FROZEN FOOD LOCKER COOPERATIVES
IN ILLINOIS
1947

By
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and
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COOPERATIVE RESEARCH AND SERVICE DIVISION

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SUMMARY

The expansion and increased activity of cooperative frozen food locker plants in Illinois, which started after World War II, continued during 1946-47. Approximately a dozen new plants started operation during the past year and several other plants were under construction. At the time this study was made there were approximately 120 cooperative locker and slaughtering plants in operation or under construction in the State.

Briefly the highlights of this study are:

Total assets of the 33 associations, operating 87 plants covered by this study, amounted to \$2,888,000. Investment in fixed assets, after deducting depreciation, totaled \$2,258,000. Net worth of the associations was approximately \$1,671,000, of which 88 percent was made up of capital stock and 12 percent of retained net savings. Total assets per association increased 52 percent over last year. The investment in fixed assets for the 87 plants is approximately \$59.19 per locker compared with \$48.60 a year ago. Average investment per plant constructed in the period 1937 to 1941 ranged from \$29 to \$45 per locker. Cost of new plants increased from \$52.53 per locker in 1944 to \$72.90 in 1947.

Receipts averaged \$35,410 per association or \$29.74 per locker rented. This represents an increase of \$9,191 per association or \$4.08 per locker over the previous year. Forty-two percent of receipts was derived from locker rentals; 30 percent from cutting, wrapping, freezing, and grinding; 16 percent from additional processing services such as slaughtering, curing, smoking, lard rendering, poultry dressing, and fruit and vegetable processing; and 12 percent from sales, grading, storage, and other income. The proportion of receipts from locker rentals dropped 5 percent, while that of sales and other income increased 5 percent compared with a year ago.

Total expenses averaged \$32,258 per association or \$27.09 per locker rented as compared with \$23,495 per association or \$22.99 per locker a year ago. Labor, depreciation, and utilities are the three major expense items, amounting to over three-fourths of all expenses. The cost of labor and management accounted for 50 percent of all expenses and amounted to 45 percent of total receipts.

Net savings averaged \$3,152 per association or \$2.65 per locker rented. While total savings increased \$428 per association, savings per locker were approximately the same as a year ago. Net savings before payment of income tax and interest averaged \$3.74 per locker or 11 percent of the original cost of fixed assets compared with 10 percent in 1946. While several associations showed considerable improvement in net savings, the average for the group as a whole was approximately the same as last year. Six associations experienced a loss this year compared with three a year ago.

Meat and poultry processed by the 33 associations amounted to 7,734 tons and averaged 394 pounds per locker rented, compared with 425 pounds per

locker the previous year. Fruits and vegetables averaged about 30 pounds per locker rented compared with 25 pounds a year ago.

Labor and management cost per dollar of processing income averaged 96 cents compared with 92 cents the previous year. Lower volume per locker plus higher wages were mainly responsible for this poorer showing. The study indicates that volume processed alone, while important, does not guarantee high net savings unless it is associated with efficient use of labor.

Power consumption per locker increased nearly 9 percent over the preceding year, or from 67 to 73 kilowatt-hours per locker per year. This may be due to a number of factors such as increased slaughtering and processing services, deterioration of insulation, decreased efficiency of refrigeration equipment or possibly to a longer period of high outside temperatures.

During the past year there has been a definite trend toward providing increased services of slaughtering and centralized processing. Twelve new slaughtering plants have been built or purchased. Four of these plants are designed to perform a complete centralized service of slaughtering, chilling, cutting, wrapping, and freezing, while eight plants limit their services largely to slaughtering and chilling and some to curing, smoking, and lard rendering for several branch plants. Eighteen associations now operate or have in process of construction 19 slaughter facilities which will serve 45 locker plants with approximately 26,000 lockers.

An increasing number of plants also provide poultry dressing services and several plants have expanded their sale of commercial frozen foods.

While a growing interest was indicated on the part of several associations in the expansion of facilities, the high cost of construction has tended to slow down new building programs in several counties.

Because of increased cost of operation and construction, both locker rental and processing rates have been raised. On the average, rental rates increased approximately 75 cents per locker and processing rates, 1/2 cent per pound. Such moderate advances appear to be justified considering sharply higher operating costs. Present rates are considerably below those charged in most other sections of the country.

Demand for locker service continued active with over 90 percent occupancy reported. However, most plants did not have the long waiting lists as they had the past several years.

While some associations showed marked improvement in the use of labor and in net savings compared with last year, the average was not as good as the previous year. In a number of associations part of this was due to their substantial expansion program which increased expenses and took considerable of the managers' time to oversee. In others, new plants

were just getting into operation and had not had time to hit their stride. With the new and expanded services which will be in operation this next year, it should be possible to increase volume and improve operations.

Opportunities for improved and expanded services through locker-plant operation appear bright, provided operations are efficient and result in satisfactory services to patrons at moderate cost. The locker business is primarily a narrow-margin service enterprise - its greatest value lies in improved diets, better use and preservation of locally produced food, and in narrowing the spread between producer and consumer. To be successful calls for courtesy, honesty, cleanliness, efficient management, and intelligent salesmanship.

If these practices and policies are followed, locker plants can become increasingly important in the marketing, processing, storing, and merchandising of both locally produced foods as well as in distributing commercial frozen foods produced outside the area. In some localities the locker plant may be the forerunner of larger commercial processing and freezing operations.

FROZEN FOOD LOCKER COOPERATIVES IN ILLINOIS, 1947

By

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Agricultural Economists

The frozen food locker industry is one of the most rapidly expanding small business industries in the United States. With less than 1,300 plants in 1938, the industry has grown until in July 1947 it was estimated that more than 9,500 plants were in operation.

The importance of the industry is shown by the volume of foodstuff processed and the number of people using these facilities. It is estimated that the 9,500 plants counted in the latest Nation-wide survey have a capacity of 4,700,000 lockers. These plants processed and stored during the year more than 1,600 million pounds of food for 4 million families or about 15 million persons. Total investment in plant facilities was estimated between 225 and 250 million dollars and gross income about 120 million dollars. Illinois reported 535 locker plants with approximately 120 plants owned cooperatively.

This survey, made at the request of the Illinois Cooperative Locker Service, is based on an analysis of 33 associations operating 87 plants, having total assets of \$2,888,000 and a combined annual volume of business in excess of \$1,168,000. The 87 plants had capacity for an estimated 45,325 lockers with approximately 43,825 lockers installed.

All associations have facilities for chilling, aging, cutting, wrapping, and freezing beef and pork. Twenty-eight associations have pork-curing facilities, 24 lard-rendering facilities, and 11 slaughtering facilities. Seven associations will complete construction of new slaughter facilities during the current year. Several associations not equipped for slaughtering provided personnel to perform this service on the farm. The period covered by the survey is the fiscal year of each association ending between December 31, 1946, and November 30, 1947.

PURPOSE OF ANALYSIS

The purpose of this analysis is to provide directors of the locker associations, plant managers, and others responsible for and interested in cooperative locker-plant operation with information on the operations of the locker associations and the relative efficiency and success of the associations and the individual locker plants. Information is also presented to show the changes that have occurred in recent years and the factors that might account for these changes.

NOTE: The authors express their appreciation to Raymond L. Fox for assistance in the field work and to Jane H. Click for assistance in preparing the tables.

BALANCE SHEET

The combined balance sheet for the 33 associations is shown in table 1. Total assets amounted to \$2,888,000 or an average of \$87,516 for each association. Expansion of plant facilities resulted in an average increase of 58 percent in total assets over the previous year. Fixed assets now average \$68,441 after depreciation; current assets, \$15,286; deferred charges, \$1,826; and investments, \$1,963. Total liabilities averaged \$36,859 and current liabilities amounted to \$10,459; unearned locker rentals, \$7,420; and noncurrent liabilities, \$18,980.

The average net worth per association is \$50,657 and consists of 88 percent outstanding capital stock and 12 percent retained net savings. One association was organized on a membership fee basis, but for the purpose of this analysis the fees are shown as capital stock. Seventy-two percent of the associations have cumulative preferred stock, with a usual dividend rate of 6 percent. Twenty-eight percent of the associations have 6 percent noncumulative preferred stock.

The balance sheet shows that current liabilities average 68 cents for each dollar of current assets. Most analysts say that for many types of enterprises maximum safety requires that current assets should be at least twice as large as current liabilities.

The ratio of borrowed funds to the book value of fixed assets is now higher than at any time in the past 4 years. The big expansion program underway in many associations has resulted in a rapid increase in funds borrowed for plant construction. The average ratio of fixed assets (book value) to term indebtedness is now 1 to 0.27 compared with 1 to 0.18 in 1944, and 1 to 0.23 in 1945 and 1946. Considerable stock has also been sold to finance this expansion program. During the year, outstanding capital stock increased from \$963,000 to \$1,464,000.

Retained net savings now total \$207,256 or \$51,000 more than the previous year. In ratio to outstanding capital stock, however, retained net savings are at their lowest point during the four years. For each dollar of outstanding capital stock there is only 14 cents of retained net savings (fig. 1) compared with 16 cents in 1946, and 21 cents in 1945. The reason, of course, has been the relatively greater increase in the amount of outstanding capital stock compared to savings retained by the associations.

INVESTMENT IN FIXED ASSETS

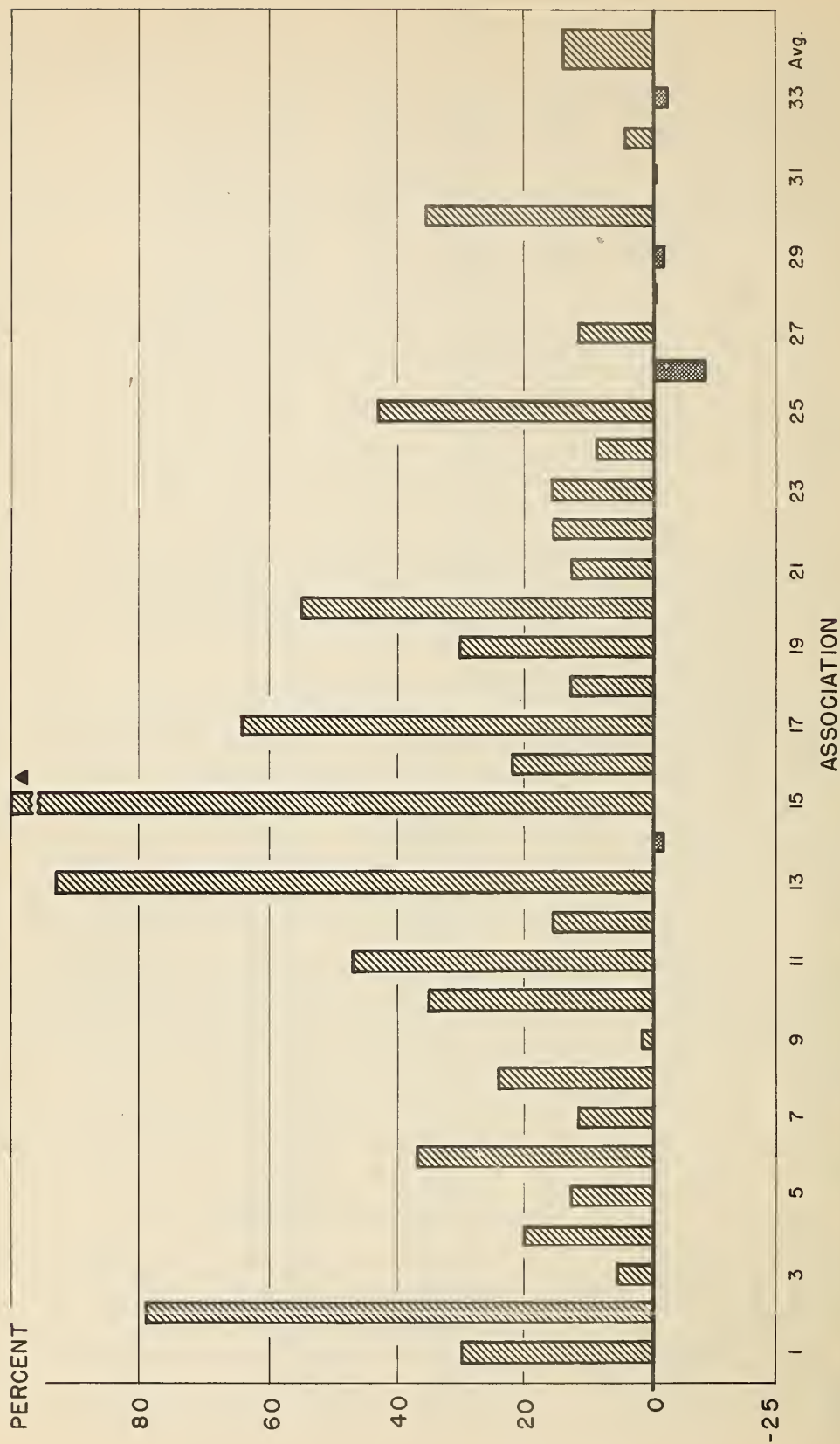
During and since World War II the cost of constructing and equipping frozen food locker plants has been steadily increasing. In some instances present-day costs make it difficult, if not impossible, to operate at current rental and processing rates. Considerable interest has been shown in the relative cost of constructing plants today compared with the prewar period.

Table 1. - Combined balance sheet for 33 Illinois locker cooperatives, 1947

Assets	Total	Average	Percent	Liabilities	Total	Average	Percent
Current assets:				Current liabilities:			
Cash on hand and in bank-----	\$340,566.15	\$10,320.18	11.79	Accounts payable-----	\$79,859.74	\$2,419.99	2.76
Accounts receivable - trade-----	108,949.44	3,301.50	3.77	Notes payable-----	120,631.48	3,655.50	4.18
Accounts receivable - other-----	4,203.79	127.39	.15	Taxes payable-----			
Reserve for doubtful accounts-----	7,133.50	210.17	.24	(Soc. Sec., State and local)-----	18,121.86	549.15	.63
Merchandise inventory-----	57,530.80	1,743.36	1.99	Federal income tax payable-----	25,021.44	758.23	.87
Advance funds - capital stock and locker rentals-----	338.00	10.24	.01	Accrued expenses payable-----	6,688.21	202.67	.23
				Dividends payable - preferred stock-----	43,937.02	1,331.42	1.52
Total current assets-----	504,454.68	15,286.50	17.47	Patronage refund payable-----	11,095.45	336.23	.38
				Accrued interest-----	2,882.24	87.34	.10
Deferred charges:				Advance funds and construction contracts payable-----	36,068.97	1,093.00	1.25
Prepaid plant supplies and expenses-----	34,785.98	1,054.12	1.20	Reserve for expenses payable-----	845.46	25.62	.03
Prepaid insurance and bonding-----	22,935.38	695.01	.80	Total current liabilities-----	345,151.87	10,459.15	11.95
Other deferred charges-----	2,547.26	77.19	.09				
Total deferred charges-----	60,268.62	1,826.32	2.09	Deferred income:			
				Unearned locker rentals-----	244,876.77	7,420.51	8.48
Investments:							
Stock - other cooperatives and St. Louis Bank for Cooperatives-----	53,847.72	1,631.75	1.86	Noncurrent liabilities:			
U. S. Government securities-----	10,924.00	331.03	.38	Notes payable-----	604,389.03	18,314.82	20.93
				Key deposit-----	21,942.48	664.92	.76
Total investments-----	64,771.72	1,962.78	2.24	Total noncurrent liabilities-----	626,331.51	18,979.74	21.69
Fixed assets:				Total liabilities-----	1,216,360.15	36,859.40	42.12
Leasehold improvements-----	27,677.79	838.72	.96				
Land-----	85,718.34	2,597.52	2.97	Net worth			
Plant and equipment-----	2,569,386.50	77,860.20	88.96				
				Capital stock:			
Total fixed assets-----	2,682,782.63	81,296.44	92.89	Issued and outstanding-----	1,464,424.44	44,376.50	50.71
Less: Reserve for depreciation-----	424,236.97	12,855.66	14.69	Retained net savings-----	207,256.09	6,280.48	7.17
Net book value-----	2,258,545.66	68,440.78	78.20	Total net worth-----	1,671,680.53	50,656.98	57.88
				Total liabilities and net worth-----	2,888,040.68	87,516.38	100.00
Total assets-----	2,888,040.68	87,516.38	100.00				

SOURCE: Based on audit reports.

FIGURE 1
 RETAINED NET SAVINGS AS A PERCENTAGE OF OUTSTANDING CAPITAL
 STOCK, ILLINOIS LOCKER COOPERATIVES, 1947



▲ RETAINED NET SAVINGS AMOUNT TO 169 PERCENT OF OUTSTANDING CAPITAL STOCK.

An analysis of 17 Illinois cooperative plants built between 1937 and 1941 shows that the cost of facilities ranged from \$29 to \$45 per locker capacity¹ and averaged about \$33.50 per locker. Twenty-four plants built in the period 1944-47 had costs ranging from \$43 to \$92 per locker and averaged approximately \$63 per locker - an increase of 88 percent. The greatest increase has been in the cost of buildings. From 1937 to 1941 buildings cost an average of \$12.25 per locker. In the period 1944-47 this cost was \$26 or 112 percent more than in the earlier period.

The cost of insulation also showed substantial increases. In the earlier period, insulation cost averaged \$6.80 per locker but increased 71 percent to \$11.65 in the latter period. Refrigeration cost increased from \$6.90 per locker to \$10.70 per locker, an increase of 55 percent. Lockers increased from \$5.05 to \$7.80 or 54 percent. The most rapid increases in cost of construction have occurred since 1944. Table 2 shows the cost by major items in 24 plants built from 1944 to 1947. Five plants were constructed in 1944 at an average cost of \$52.53. In 1945 eight plants were built at a cost of \$59.63. Six plants built in 1946 cost \$63.58 per locker and five plants in 1947 cost \$72.90 per locker. If the plants used in this analysis are representative, construction and equipment costs have increased approximately 40 percent in 4 years.

Items showing the greatest increase since 1944 also showed the greatest increase prior to that year. Building costs in 1947 were 206 percent higher than the 1937-41 average. Insulation costs were 104 percent higher and refrigeration costs 101 percent higher. Cost of constructing 5 plants in 1947 was 118 percent more than the average of 17 plants constructed in the 1937-41 period. Some of this increase has been due to the installation of more complete service plants. By far the greatest factor, however, has been the increase in the cost of buildings and equipment.

Plants built at these high prices may find it difficult to operate profitably unless methods are found to greatly increase the efficiency of labor, new and profitable services undertaken, and rental and processing rates raised. With respect to the latter point, it must be recognized that competition from home frozen food units and from other sources of food supply as well as other methods of food preservation will limit possibilities in this field.

OPERATING STATEMENT

The data in table 3 were assembled from the associations' audit reports and cover the past two fiscal years. Thirty-three associations were included in the 1946-47 analysis and 32 associations in the 1945-46 analysis. Inasmuch as the same number of associations are not shown for both periods, the data of most value are those showing average

¹Locker capacity means the number of lockers that can be installed in existing zero temperature rooms.

Table 2. - Investment in fixed assets by year of opening, Illinois cooperative locker plants, 1944-47¹

Plants opened in 1944									
Plant ²	Locker capacity	Land	Building	Insulation	Refrigeration	Lockers ³	Processing	Other	Total
29-A	528	\$1.59	\$28.02	\$9.58	\$8.72	\$7.04	\$4.28	\$0.94	\$60.17
3-C	561	-----	-----	-----	-----	-----	-----	-----	57.45
19-A	296	-----	-----	-----	-----	-----	-----	-----	49.42
14-C	621	1.93	14.94	10.62	7.40	7.98	5.70	.08	48.65
30-A	376	1.60	5.19	15.04	11.48	6.13	3.44	.45	43.33
Average	---	1.73	17.06	11.35	8.86	7.20	4.65	.47	52.53

Plants opened in 1945									
27-A	342	2.70	35.97	14.63	10.86	6.14	8.05	1.00	79.35
8-B	479	1.35	38.15	13.00	11.09	8.53	2.58	2.89	77.59
31-A	448	.45	24.33	11.34	11.76	9.69	7.16	.69	65.42
26-A	436	1.15	19.87	14.27	11.86	8.32	3.86	.76	60.09
23-A	1,059	1.89	27.81	7.86	8.05	7.24	3.18	1.60	57.63
24-A	742	2.69	23.52	8.78	8.30	7.29	4.07	.98	55.63
25-A	736	.33	21.57	8.76	8.71	6.57	4.00	.54	50.48
5-C	546	.55	11.32	12.03	9.39	9.87	4.56	.31	48.03
Average	---	1.42	24.88	10.52	9.54	7.82	4.33	1.12	59.63

Plants opened in 1946									
3-D	564	----	-----	-----	----	----	----	----	90.42
31-B	520	1.30	42.01	9.81	9.48	7.23	6.80	.60	77.23
32-A	620	1.94	29.17	10.65	8.67	7.94	4.18	.25	62.80
33-A	538	11.15	13.92	10.47	9.13	6.54	5.91	.48	57.60
18-B	406	1.23	17.77	12.85	14.74	6.86	2.35	.31	56.11
14-D	906	2.48	22.81	7.10	6.45	7.85	.30	.15	46.48
Average	---	3.55	25.19	9.69	9.05	7.38	3.52	.33	63.58

Plants opened in 1947									
(4)	449	2.27	42.45	15.59	17.40	7.34	7.25	.27	92.57
14-E	1,040	4.85	49.95	13.48	12.07	8.74	1.13	.87	90.25
33-B	639	1.17	24.09	13.17	16.56	10.60	3.61	1.05	68.58
18-D	630	.48	26.78	13.89	11.68	7.94	2.34	3.14	66.25
5-D	874	----	-----	-----	-----	-----	----	----	50.10
Average	---	2.58	37.45	13.85	13.89	8.69	2.98	1.33	72.90

¹Investment at close of fiscal year ending in 1947²Arabic numerals refer to county associations. Lettered subdivisions refer to individual plants.³Investment per locker installed.⁴This plant recently opened and was not included in rest of survey.

SOURCE: Based on audit reports and associations' records.

Table 3. - Combined income and expense statement (comparative)¹ - Illinois locker cooperatives, 1946-47 and 1945-46

Item	Fiscal years ending between December 31, 1946 and November 30, 1947			Fiscal years ending between October 31, 1945 and September 30, 1946			Average increase or decrease
	Total	Average	Percentage of operat- ing income	Total	Average	Percentage of operat- ing income	
Income:							
Earned locker rentals-----	\$492,734.56	\$14,931.35	42.39	\$393,087.14	\$12,283.97	47.17	\$2,647.38
Cut, wrap, freeze and grind-----	350,711.53	10,627.62	30.17	261,695.47	8,177.98	31.40	2,449.64
Cure and smoke-----	83,157.66	2,519.93	7.15	64,994.89	2,031.09	7.80	488.84
Render lard-----	25,373.61	768.90	2.18	21,489.71	671.56	2.58	97.34
Slaughter-----	31,907.28	966.89	2.74	16,796.54	524.89	2.02	442.00
Poultry processing-----	9,253.22	280.40	.80	8,106.73	253.34	.97	27.06
Fruits and vegetables-----	26,473.02	802.21	2.28	15,703.80	490.73	1.88	311.48
Inedible sales-----	95,200.75	2,884.87	8.19	29,569.43	924.05	3.55	1,960.82
Merchandise sales-----	35,578.12	1,078.13	3.06	12,667.09	395.85	1.52	682.28
Other plant income-----	12,126.93	367.48	1.04	9,217.60	288.05	1.11	79.43
Total operating income-----	1,162,516.68	35,227.78	100.00	833,328.40	26,041.51	100.00	9,186.27
Expenses:							
Salaries and wages-----	528,766.52	16,023.23	45.48	379,182.58	11,849.46	45.50	4,173.77
Utilities-----	109,359.41	3,313.93	9.41	86,923.15	2,716.34	10.43	597.59
Laundry-----	9,169.37	277.86	.79	5,777.83	180.55	.70	97.31
Plant supplies-----	77,826.69	2,358.38	6.69	50,490.13	1,577.82	6.06	780.56
Plant repairs-----	33,518.71	1,015.72	2.88	19,526.26	610.19	2.34	405.53
Licenses and taxes-----	16,883.59	511.62	1.45	13,335.95	416.75	1.60	94.87
Bonding and insurance-----	20,658.80	626.02	1.78	13,436.37	419.89	1.61	206.13
Educational and promotional-----	13,429.08	406.94	1.16	8,285.41	258.92	.99	148.02
Directors per diem, legal and audit-----	20,764.23	629.22	1.79	16,934.92	529.22	2.03	100.09
Office supplies and expenses-----	25,030.48	758.50	2.15	16,550.09	517.19	1.99	241.31
Bad debts and losses-----	4,426.70	134.14	.38	1,994.33	62.32	.24	71.82
Truck, auto and mileage-----	15,887.73	481.45	1.37	9,525.45	297.67	1.14	183.78
Depreciation and rent-----	139,624.57	4,231.05	12.01	91,828.70	2,869.65	11.02	1,361.40
Other expenses-----	5,896.16	178.67	.51	4,060.14	126.88	.49	51.79
Total operating expenses-----	1,021,242.04	30,946.73	87.85	717,951.31	22,432.85	86.14	8,513.88
Net operating income-----	141,274.64	4,281.05	12.15	115,477.09	3,608.66	13.86	672.39
Other income:							
Nonoperating and miscellaneous-----	6,009.04	182.09	.52	5,674.69	177.33	.68	4.76
Total-----	147,283.68	4,463.14	12.67	121,151.78	3,785.99	14.54	677.15
Other expenses:							
Interest-----	17,771.95	538.54	1.53	10,651.03	332.84	1.28	205.70
Federal income tax-----	25,484.34	772.25	2.19	23,324.17	728.88	2.80	43.37
Total other expenses-----	43,256.29	1,310.79	3.72	33,975.20	1,061.72	4.08	249.07
Net savings-----	\$104,027.39	\$3,152.35	28.95	\$87,176.58	\$2,724.27	10.46	\$428.08

¹32 associations included in 1945-46 analysis and 33 associations in the 1946-47 analysis.²Net savings of 8.95 percent based on total operating income. In table 7 net savings of 8.90 percent based on total gross income.

SOURCE: Based on audit reports.

income,² expense, and savings. On the average, all income and expenses increased over the preceding year. Total operating income averaged \$35,228 per association, an increase of \$9,186 over the preceding year. Earned locker rentals increased \$2,647 but declined from 47 percent to 42 percent of total operating income. Cutting, wrapping, freezing, and grinding service produced \$2,450 more than the preceding year. Inedible sales increased \$1,960 or from 4 percent to 8 percent of total operating income. The important factors contributing to the changed picture are: (1) Higher locker rental and processing rates, (2) more locker and processing facilities, (3) more attention to salvaging inedibles, and (4) increased merchandise sales.

The increase in business activity of the associations resulted in an increase in all expenses. Total operating expenses increased \$8,514 per association to \$30,947, of which \$4,174 was due to the increase in the cost of labor and management. Depreciation, rent, plant supplies, and utilities also showed significant increases. As a percentage of total operating income, however, the various expense items showed little change. Salaries and wages remained the same, depreciation and rent increased about 1 percent, and utilities declined 1 percent. Among the less important expenses which increased over the previous years are plant and office supplies, plant repairs, and the cost of educational and promotional activities while licenses, taxes, directors' per diem, legal, and audit declined percentagewise.

Net savings for the entire group of associations averaged \$4,463 per association before payment of income tax and interest, and \$3,152 after payment of these items. Increase in savings averaged \$428 per association over the previous year and net savings amounted to 8.95 percent of total operating income. In 1945-46 net savings averaged 10.46 percent of operating income. This indicates that the increase in expenses over the previous year was relatively greater than the increase in income. Trends in income, expenses, and net savings per locker from 1943-44 to 1946-47 are shown by table 4. For the 4-year period total income increased \$7.25 per locker, of which \$3.99 came from processing; \$1.01 from rentals; and \$2.15 from other sources. In spite of this substantial gain in income, expenses increased \$7.48 per locker for the same period. Labor was responsible for \$4.29 of this increased expense; fixed charges, \$1.39; other expenses, \$1.32; and utilities, 48 cents per locker. For the same period net savings declined from \$4.07 in 1943-44 to \$3.74 in 1946-47, reaching their lowest point in 1945 at \$2.88 per locker.

²The term "income" is used in this report because it is in customary use by the Illinois locker cooperatives and therefore is well understood by their managements and patrons. Most cooperative authorities do not favor the use of the word "income" to describe the normal operating receipts of a cooperative which is obligated by agreement to distribute such receipts, less expenses and other authorized deductions, to its patrons in proportion to the volume of business done with each patron.

Table 4. - *Income, expense, and net savings per locker rented before income tax and interest, Illinois locker cooperatives, 1943-44 to 1946-47.*

Item	1943-44		1944-45		1945-46		1946-47	
	Dollars	Percent	Dollars	Percent	Dollars	Percent	Dollars	Percent
Income:								
Rentals-----	11.53	51	11.69	51	12.02	47	12.54	42
Processing-----	9.70	43	9.96	43	11.89	46	13.69	46
Other-----	1.36	6	1.44	6	1.75	7	3.51	12
Total-----	22.59	100	23.09	100	25.66	100	29.74	100
Expenses:								
Labor-----	9.17	41	10.14	44	11.60	45	13.46	45
Utilities-----	2.30	10	2.40	10	2.66	10	2.78	9
Fixed charges ¹ -----	3.96	17	4.38	19	4.22	17	5.35	18
Other-----	3.09	14	3.29	15	3.48	14	4.41	15
Total-----	18.52	82	20.21	88	21.96	86	26.00	87
Net savings-----	4.07	18	2.88	12	3.70	14	3.74	13

¹Plant repairs, depreciation, rent, insurance, bonding, licenses, and taxes.

SOURCE: Based on audit reports

ANALYSIS OF INCOME BY ASSOCIATIONS

In table 5 income by major items is shown for each association. In order that the information for one association be comparable with other associations regardless of size, the income is shown on a locker-rented basis.³ The same basic accounting procedure was used by all associations and all auditing was done by one auditing firm. When known, variations among associations occurring in bookkeeping procedure were adjusted. Several associations were engaged in activities not related to their locker operations. The receipts and expense realized from these "outside" operations were excluded whenever possible.

The associations shown in this table are grouped according to rate charged for cutting, wrapping, freezing, and grinding and then arrayed according to net savings per locker rented. Average income for each service is the average for only those associations offering the service. For example, in group I, the average income per locker rented from lard rendering is the average for the 4 associations offering the service.

Average gross income for the 33 associations was \$29.74 per locker rented or 16 percent more than the previous year. The 5 associations charging \$3 per hundred pounds for cutting, wrapping, freezing, and

³Number of lockers rented during the year computed by dividing earned locker rental income by average locker rental rate.

Table 5. - Comparative analysis of income per locker rented for 33 Illinois locker cooperatives, 1946-47

Association	Earned locker rentals	Cut, wrap, freeze, and grind	Cure and smoke	Render lard	Slaughter	Poultry	Fruits and vegetable tables	Chilling, storage, grading, etc.	Inedible sales	Merchandise sales ¹	Other plant income	Non-operating income	Total income
Group I ²													
27-----	\$14.32	\$13.81	\$4.68	\$4.09	\$3.81	\$0.34	\$0.54	\$0.17	\$5.66	\$0.43	\$0.03	\$0.02	\$47.34
8-----	15.15	8.97	1.57	-----	-----	.40	.43	-----	2.16	.24	-----	.03	28.95
30-----	12.66	10.08	4.41	1.55	-----	.34	.64	-----	1.60	.80	.29	.01	28.38
11-----	12.56	10.84	4.59	1.18	-----	(3)	.39	-----	3.25	.96	-----	.39	34.16
33-----	14.13	9.36	1.79	1.31	-----	.91	1.27	-----	1.07	.53	-----	.07	30.44
Average ³ -----	13.93	10.09	2.67	1.64	3.81	.49	.58	.17	2.55	.52	.17	.14	32.19
Group II ²													
4-----	12.55	12.34	2.33	1.56	-----	(3)	.04	.24	2.89	3.74	-----	(5)	35.69
32-----	13.58	8.45	1.79	.96	-----	-----	1.10	.63	1.59	2.74	.05	.02	30.91
24-----	13.24	8.28	4.86	.84	-----	.48	1.29	.68	3.31	3.58	-----	.03	36.59
2-----	11.48	11.97	2.94	.84	-----	.25	1.14	.19	2.11	1.18	-----	.08	31.18
5-----	12.54	8.94	1.68	-----	2.06	.16	1.01	-----	5.16	2.19	-----	.25	33.99
9-----	12.54	12.87	2.59	1.57	1.47	.71	.27	.23	4.16	.96	.46	.04	37.87
18-----	12.33	9.25	3.02	1.40	-----	(3)	.93	.10	1.50	.84	(5)	.05	29.42
31-----	13.93	7.74	2.88	.38	1.04	(3)	.89	-----	.67	.53	-----	.01	28.07
1-----	10.95	8.82	3.33	.91	-----	(3)	.53	.22	1.90	.42	.04	.01	27.16
16-----	10.76	10.33	6.01	-----	2.60	.32	.11	.01	2.47	.05	-----	.01	26.55
22-----	11.54	10.00	2.57	.03	.14	(3)	.44	-----	2.16	.51	-----	.10	27.49
14-----	12.55	10.20	1.29	-----	2.38	.60	.48	.14	3.63	.79	-----	.59	32.65
Average ⁴ -----	12.21	10.01	2.39	.89	1.67	.39	.58	.21	2.79	1.29	.09	.17	31.32
Group III ²													
23-----	13.25	8.18	3.67	1.43	2.47	.66	.48	2.77	5.03	1.60	.06	.08	39.68
25-----	12.67	6.73	2.49	.66	-----	.46	.77	-----	1.09	.34	-----	.10	25.31
15-----	12.21	11.02	1.92	6.78	6.02	.30	.34	-----	3.40	.42	-----	(5)	30.37
21-----	13.62	10.51	-----	1.92	5.66	.38	.23	-----	4.76	.46	-----	.02	37.56
13-----	12.60	7.35	2.87	1.00	-----	.27	.36	-----	1.63	.29	.09	.47	26.93
19-----	12.72	4.33	-----	-----	2.65	(3)	.74	-----	2.36	.98	(5)	.01	23.79
6-----	12.39	7.04	1.40	1.02	-----	(3)	.62	-----	2.65	.24	-----	.04	25.40
20-----	10.00	7.23	1.01	1.08	1.73	(3)	.85	.39	1.67	.35	.01	-----	24.32
17-----	11.99	9.25	-----	6.24	-----	(3)	.29	1.06	1.13	.30	.39	.06	24.71
12-----	12.86	7.23	1.32	.59	1.47	.37	1.00	.77	2.65	.47	-----	.11	28.75
10-----	12.57	9.78	2.23	-----	-----	.68	.65	.27	.84	.60	-----	.35	27.97
3-----	13.06	7.58	1.59	.55	-----	.29	.96	.85	2.32	.71	-----	.10	28.01
28-----	12.86	6.84	2.52	.47	.73	(3)	1.67	-----	.70	.94	.02	.35	27.10
7-----	11.91	6.41	6.65	.43	-----	(3)	.20	-----	2.01	.07	-----	.06	21.60
29-----	12.33	5.69	3.43	.65	-----	(3)	1.53	-----	.05	.83	.02	.03	24.56
26-----	13.68	5.80	3.24	-----	-----	(3)	.60	.36	.72	.27	.02	(5)	25.14
Average ⁵ -----	12.56	7.51	2.02	.74	1.77	.44	.79	.92	2.01	.60	.08	.15	27.50
Combined average ⁴ -----	12.54	8.93	2.28	.80	1.75	.42	.67	.50	2.42	.91	.09	.16	29.74

¹Income after deducting cost of sales. ²Rate for cut, wrap, freeze, and grind. Group I, \$3.00; Group II, \$2.50; Group III, \$2.00; association 17, \$1.50. ³Included in cut, wrap, freeze, and grind income. ⁴Average income per locker for each service computed on basis of lockers rented in only those associations showing income from those services. Total average income is average for all associations. ⁵Less than one-half cent per locker rented. ⁶Service not offered by association. Income after cost of service.

SOURCE: Based on audit reports.

grinding shown as group I in the table, averaged \$32.19 per locker rented. Twelve associations charging \$2.50 for the service (group II) averaged \$31.32; and the 16 associations charging \$2 per hundred pounds (group III) averaged \$27.50.

Locker rentals averaged 42 percent of gross income compared with 47 percent in 1945-46 and 51 percent in 1944-45. The importance of locker rentals in total income has been declining steadily for the past 3 years. (See fig. 2.) In 1946-47, the period covered by this analysis, processing income exceeded earned locker rental income for the first time. Locker rental income averaged \$12.54 for the 33 associations and ranged from \$10 to \$15.15 per locker. Locker rental income was actually the average annual locker rental rate for each association.

Income from cutting, wrapping, freezing, and grinding varied considerably among the associations. It ranged from \$4.33 to \$13.81 and averaged \$8.93 per locker rented for the entire group. The associations in group I had the highest rates, \$3, and averaged \$10.09 per locker rented. Associations in group II, while having a \$2.50 rate, grossed \$10.01 from this service. Associations in this group had a greater average volume of processing than the associations in group I but because of the lower rate charged, returns per locker were somewhat smaller. The associations in group III with only a \$2 rate grossed \$7.51 per locker. The association with the largest income from this service had the highest total gross income (\$47.34) per locker rented, as well as the greatest net savings per locker.

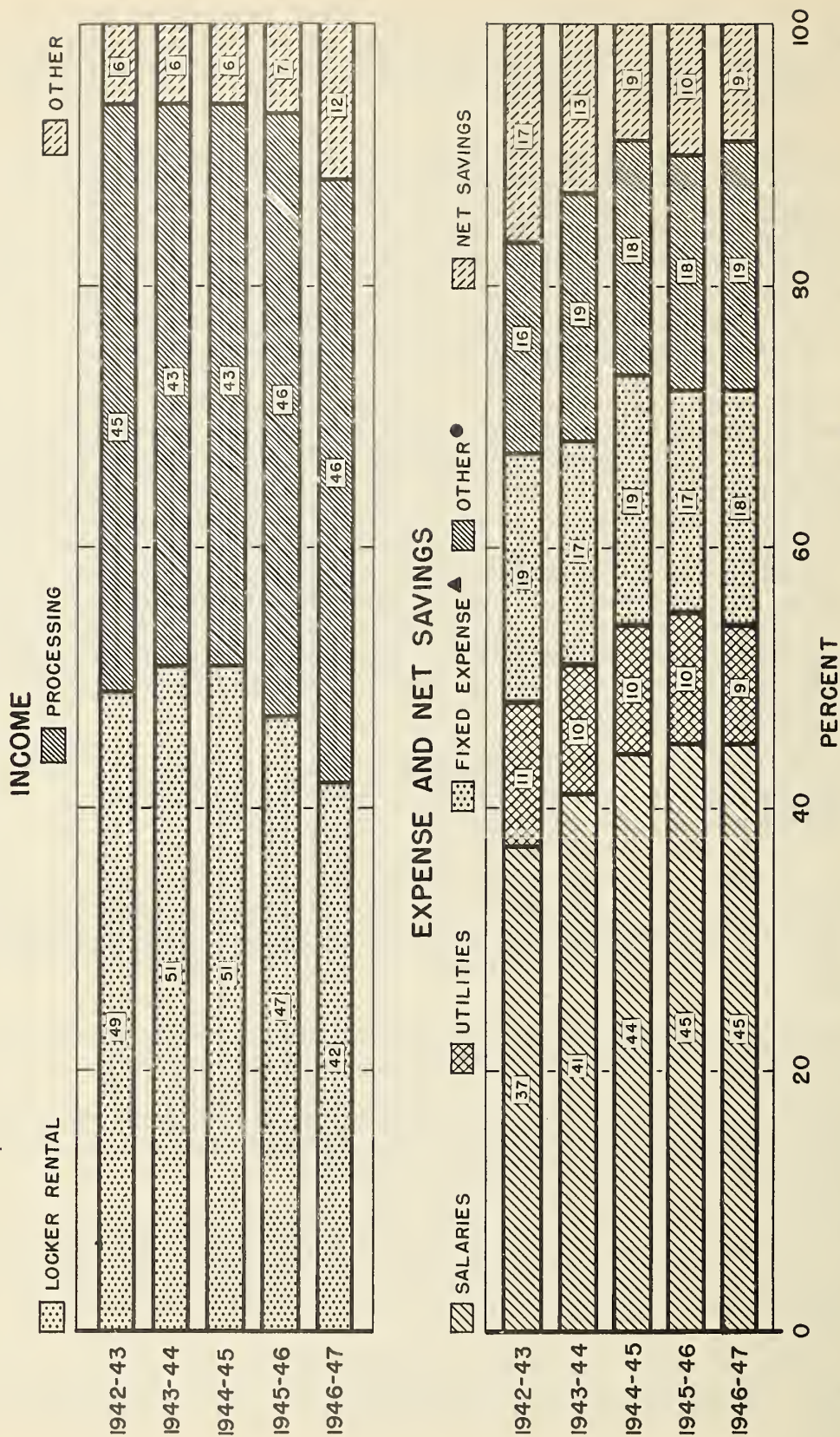
Associations in group III averaged \$7.51 per locker rented with a rate of \$2 per hundred pounds. Volume of processing exceeded the average for group I but was somewhat less than the average for group II.

The increase in income from cutting, wrapping, and freezing over the previous year can be attributed entirely to the increase in processing rates. On the average, rates for this service increased approximately 20 percent while volume of meat processed declined an estimated 7 percent.

Curing and smoking service is now provided by 28 associations. Two of the five associations not providing the service have made arrangements with other concerns to have meat cured and smoked for their locker patrons. This service now averages \$2.28 per locker rented and is the second largest processing item. Furthermore, it is believed to be one of the most profitable processing services.

Fifteen associations now provide slaughter service for locker patrons with 11 associations providing their own slaughter facilities. Income from this service averaged \$1.75 per locker rented. The most significant change in the income picture of the associations has been the increase in the amount received from inedible sales. This item averaged \$2.42 per locker or 150 percent more than the 97-cent average for the previous year. The higher prices received for inedible byproducts and the greater attention to salvaging these byproducts account for most of the increase.

FIGURE 2
AVERAGE INCOME AND EXPENSE, ILLINOIS LOCKER COOPERATIVES
1942-43 TO 1946-47



Merchandise sales, although still relatively unimportant, show a substantial increase over the previous year. Income from this source averaged 91 cents per locker compared with 41 cents in 1945-46. Many associations are giving more attention to the merchandising of fresh and prepackaged frozen meats, commercial frozen foods, locker and home-unit supplies, etc. It is believed that in the future this activity will provide an increasing share of the associations' revenue.

The detail with which the data are presented provides the associations with a key to possible weaknesses in their operations. These associations with relatively low income from one or more services might well give greater consideration to correcting some of their weaknesses and expanding operations.

ANALYSIS OF EXPENSES BY ASSOCIATIONS

Detailed analysis of expenses and net savings is shown in table 6. Total operating expenses for the 33 associations averaged \$26.00 per locker rented and total expenses (including income taxes and interest) \$27.09. Salaries and wages amounted to 50 percent of all expenses and absorbed 45 percent of income. The average cost of labor and management was \$13.46 per locker rented or 15 percent more than the previous year. Group II had the highest labor and management cost and group III the lowest. Volume of products processed per locker was also highest in group II and lowest in group III. Assuming conditions such as labor rates, efficiency, etc., to be the same, it is to be expected that labor and management cost would vary with volume of processing. In a later section the problem of labor cost and efficiency is discussed in more detail.

Depreciation and rent is the second largest expense item. This expense ranged from \$1.97 to \$5.93 and averaged \$3.55 per locker rented. Differences in investment in fixed assets per locker and in depreciation rates account for most of the variations. A few associations operate in rented buildings and this rent expense is shown with depreciation.

Analysis of depreciation rates shows that the rates used most by the associations for major facility items are as follows: buildings, 2 1/2 and 3 percent; insulation, 5 percent; building and insulation combined, 3 percent; refrigeration equipment, 7-1/2 and 10 percent with 10 percent the most usual rate; lockers 7-1/2 and 10 percent; processing equipment, 10 percent; and miscellaneous equipment, 10 percent.

Utility cost averaged 10 percent of all expenses or \$2.78 per locker rented. Variations in power and water rates, cost of fuel, volume of products processed, and number of processing services offered by the associations account for much of the differences. A later section of the report analyzes power usage in locker plants and discusses in greater detail some of the factors affecting power consumption.

The cost of plant supplies increased significantly over the previous year. Cost per locker increased from \$1.54 to \$1.98 or 29 percent

Table 6. - Comparative analysis of expenses per locker rented for 33 Illinois locker cooperatives, 1946-47

Association	Salaries and wages	Utilities	Laundry	Plant supplies	Repairs and maintenance	Licenses and taxes	Bonding and insurance	Educational and promotional	Directors per diem, legal and audit
Group I									
27-----	\$19.72	\$4.28	\$0.26	\$2.52	\$1.39	\$0.69	\$0.59	\$0.46	\$1.02
8-----	9.32	2.43	.12	1.79	.91	.42	.25	.56	.78
30-----	8.50	4.23	.08	1.46	1.28	.64	.33	.40	.53
11-----	14.98	3.73	.25	1.64	1.25	.18	.61	.69	.83
33-----	16.89	3.09	.38	2.40	.64	.27	1.71	.48	1.58
Average-----	12.97	3.23	.21	1.87	1.04	.36	.62	.57	.92
Group II									
4-----	15.23	3.26	.24	2.68	.56	.58	.44	.31	.39
32-----	9.69	3.45	.28	2.24	.21	.98	.39	.26	.82
24-----	15.52	2.67	.33	1.78	1.27	.34	1.14	.55	1.20
2-----	14.23	2.38	.26	2.39	.90	.76	.57	.31	.37
5-----	15.36	2.80	.21	2.31	1.60	.38	.29	.35	.44
9-----	20.26	2.91	.22	1.22	.55	.56	.42	1.17	.78
18-----	11.69	2.42	.26	2.07	.49	.56	.69	.40	.53
31-----	11.98	3.16	.46	1.43	.50	.18	.38	.11	.68
1-----	13.33	2.61	.28	1.95	.93	.60	.38	.20	.22
16-----	13.55	2.86	.22	1.44	.54	.11	.27	.14	.50
22-----	12.73	3.19	.21	2.57	1.07	.33	.59	.41	.28
14-----	18.25	2.60	.35	2.06	.82	.25	.57	.45	.63
Average-----	14.61	2.76	.27	2.13	.88	.46	.52	.38	.51
Group III									
23-----	16.76	2.91	.31	2.07	.58	.46	.62	.26	.73
25-----	6.99	2.89	.10	1.19	1.36	.29	.39	.06	.62
15-----	13.04	2.33	.23	2.64	.53	.05	.34	.34	.70
21-----	15.59	3.62	.29	3.26	.73	.58	.73	.15	.46
13-----	10.31	2.63	.19	1.62	.78	.16	.49	.12	.47
19-----	9.07	2.68	.06	.75	.36	.40	.42	.23	.58
6-----	9.51	2.79	.18	1.67	.77	.50	.50	.23	.20
20-----	12.30	2.03	.18	.87	.39	.37	.30	-----	.56
17-----	11.40	2.28	.23	1.51	.43	.55	.30	.18	.28
12-----	12.71	3.61	.17	1.56	1.01	.40	.49	.24	.34
10-----	16.03	2.16	.21	2.15	.33	.25	.67	.33	.21
3-----	13.40	2.92	.20	1.84	1.04	.46	.55	.34	.30
28-----	13.20	1.93	.11	2.77	1.31	.49	.64	.34	.37
7-----	10.73	2.64	.16	1.85	.74	.52	.39	.40	1.06
29-----	10.88	3.18	.52	2.48	.12	.41	.55	.38	.54
26-----	9.63	4.33	.34	1.66	1.26	.31	.75	.09	.78
Average-----	12.36	2.71	.20	1.85	.78	.41	.51	.27	.46
Combined average-----	13.46	2.78	.23	1.98	.85	.43	.53	.35	.53

Table 6. - Continued

Association	Office supplies and expenses	Bad debts and losses	Truck, auto and mileage	Miscellaneous expense	Depreciation and rent	Total operating expenses	Interest expense	Federal income tax	Total expense	Net savings
Group I										
27-----	\$0.30	\$0.02	-----	\$0.15	\$4.58	\$35.98	\$0.61	\$1.95	\$38.54	\$8.80
8-----	.48	.01	\$0.15	1.16	2.75	21.13	-----	.87	22.00	6.95
30-----	.45	.02	-----	.12	2.79	20.83	.53	1.48	22.84	5.54
11-----	.71	.06	.46	-----	4.64	30.03	.14	.83	31.00	3.16
33-----	1.07	.06	.16	.03	3.85	32.61	1.05	-----	33.66	3.22
Average¹	.62	.03	.26	.66	3.64	26.76	.48	1.02	27.92	4.27
Group II										
4-----	.45	-----	.24	.10	3.77	28.25	-----	1.61	29.86	5.83
32-----	.50	.02	.11	-----	4.27	23.22	.87	1.45	25.54	5.37
24-----	.84	-----	.34	.09	3.23	29.30	1.40	1.24	31.94	4.65
2-----	.58	.20	.20	.05	3.11	26.31	.19	1.05	27.55	3.63
5-----	.33	.08	1.37	.08	3.27	28.87	.51	1.02	30.40	3.59
9-----	.75	.12	.46	-----	4.09	33.51	.02	.91	34.44	3.43
18-----	.67	.05	.93	.01	3.08	23.85	1.29	.93	26.07	3.35
31-----	.53	.07	.23	-----	4.10	23.81	.98	.17	24.96	3.11
1-----	.33	-----	.28	.04	2.27	23.42	(2)	.80	24.22	2.94
16-----	.43	.03	-----	.40	4.18	24.67	-----	.40	25.07	1.48
22-----	.60	.07	.06	.18	3.05	25.34	.50	.34	26.18	1.31
14-----	1.68	.47	.64	.04	5.93	34.74	.64	-----	35.38	2.73
Average¹	.72	.17	.53	.08	3.73	27.69	.58	.89	28.97	2.35
Group III										
23-----	.86	.06	.29	.38	4.42	30.71	.97	-----	31.68	8.00
25-----	.55	.02	-----	.04	2.90	17.40	.36	1.59	19.35	5.96
15-----	.46	-----	.01	.16	3.65	24.48	-----	-----	24.48	5.89
21-----	.44	.51	-----	.12	3.48	29.96	.79	1.42	32.17	5.39
13-----	.24	.08	-----	.05	3.08	20.22	.19	1.37	21.78	5.15
19-----	.38	.01	.44	.08	2.53	17.99	-----	1.24	19.23	4.56
6-----	.62	-----	.33	.12	3.29	20.71	-----	.98	21.69	3.71
20-----	.24	-----	.24	.95	1.97	20.40	.51	-----	20.91	3.41
17-----	.25	-----	.04	.28	3.03	20.76	-----	.83	21.59	3.12
12-----	.35	.16	.51	.07	3.68	25.30	.23	.68	26.21	2.54
10-----	.47	.04	.47	.02	2.83	26.17	.44	.29	26.90	1.07
3-----	.92	.02	.79	.11	3.47	26.36	.43	.26	27.05	.96
28-----	.67	.20	.09	.12	4.39	26.63	.88	-----	27.51	.41
7-----	.51	.21	.63	-----	2.11	21.95	.15	-----	22.10	.50
29-----	1.15	.29	.28	.09	3.75	24.62	.83	-----	35.45	.89
26-----	.38	.21	.36	.04	5.41	25.55	.56	-----	26.11	.97
Average¹	.55	.13	.38	.17	3.35	24.02	.52	.80	24.93	2.57
Combined average¹	.64	.14	.44	.17	3.55	26.00	.55	.87	27.09	2.65

¹Average expense per locker for each item based on lockers rented in only those associations having the particular expense. Total average computed on basis of lockers rented in all associations.

²Less than one-half cent per locker rented.

SOURCE: Based on audit reports.

although volume of products processed was considerably lower. Increased cost of wrapping paper and other processing supplies, as well as the larger number of processing services offered by many associations, caused the increase in this item.

When compared with 1945-46, operating expenses were found to be in most instances substantially higher. The increase averaged 18 percent or \$4.04 per locker rented.

SAVINGS

Net savings of all associations averaged \$2.65 per locker rented and ranged from a loss of \$3.22 to a savings of \$8.80 per locker. Associations in group I averaged \$4.27 per locker rented or 60 percent above the average of all plants. High processing and locker rental rates rather than above-average efficiency are apparently the reason for the excellent showing. Group II associations averaged only \$2.35 or 10 percent below the combined average of all plants. Lower processing rates than group I associations, lowest average locker rental rates, and above-average expenses worked to reduce savings in this group. The associations in group III had average net savings of \$2.57 per locker rented despite a processing rate 33 percent lower than group I associations and 20 percent below group II. It appears this group was able to realize average savings despite low processing rates because of low operating costs.

Savings have been widely used as a measure of successful operation. Several analyses were made comparing net savings with other information such as gross income and investment in fixed assets, so the relative position of each association could be determined. In table 7, net savings are shown as a percentage of gross income both before and after payment of income tax and interest. On the average, net savings amounted to 12.6 percent of gross income before payment of income taxes and interest and 9 percent after payment of these expenses. In the preceding year net savings averaged 14 percent before payment and 10 percent after payment. Net savings for 70 percent of the associations exceeded 12 percent before income taxes and interest, and 15 percent of the associations operated at a loss. Association 33 curtailed operations during the year while expanding its facilities, thus accounting for its substantial loss.

Savings as a percentage of gross income have been somewhat higher in prior years as shown in table 8. The period 1940-41 through 1943-44 had an average yearly savings before income tax and interest of 19.6 percent. Lower cost facilities and low fixed costs, unusually active demand for lockers, and relatively small increases in the cost of labor were factors contributing to the excellent earnings ratio. Since 1943-44, savings have averaged 13.2 percent or one-third less than the earlier period. Demand for locker service has remained active and locker rental and processing rates have increased generally. However, the high cost of labor, construction of many relatively expensive plants, and the expense associated with opening new plants have worked to reduce margins.

Table 7. - Net savings as a percentage of gross income for 33 Illinois locker cooperatives, 1946-47.

Association	Gross income	Net savings before income tax and interest		Net savings after income tax and interest	
	Dollars	Dollars	Percent	Dollars	Percent
8-----	44,809.68	12,099.89	27.00	10,760.02	24.01
25-----	18,728.95	5,854.80	31.26	4,407.25	23.53
23-----	41,660.51	9,416.85	22.60	8,395.81	20.15
30-----	10,216.51	2,716.89	26.59	1,994.97	19.53
15-----	14,031.63	2,721.49	19.40	2,721.49	19.40
19-----	26,524.81	6,469.81	24.39	5,083.13	19.16
13-----	21,487.65	5,353.53	24.91	4,107.08	19.11
27-----	15,763.64	3,782.09	23.99	2,931.02	18.59
32-----	19,384.30	4,824.37	24.89	3,370.07	17.39
4-----	34,695.28	7,234.23	20.85	5,670.36	16.34
6-----	25,580.54	4,730.09	18.49	3,739.00	14.62
21-----	21,710.11	4,395.25	20.25	3,114.69	14.35
20-----	23,011.52	3,712.51	16.13	3,231.59	14.04
24-----	26,966.37	5,373.79	19.93	3,429.89	12.72
17-----	27,210.66	4,355.86	16.01	3,441.13	12.65
2-----	81,928.11	12,799.31	15.62	9,536.37	11.64
18-----	56,485.89	10,686.92	18.92	6,432.90	11.39
31-----	26,587.90	4,037.97	15.19	2,949.34	11.09
1-----	42,152.47	5,801.54	13.76	4,563.42	10.83
5-----	82,802.78	12,475.34	15.07	8,738.81	10.55
11-----	42,500.68	5,148.75	12.11	3,939.65	9.27
9-----	28,967.43	3,335.01	11.51	2,625.32	9.06
12-----	49,200.01	5,915.01	12.02	4,355.49	8.85
16-----	15,082.54	1,067.25	7.08	843.12	5.59
22-----	51,764.21	4,053.10	7.83	2,461.11	4.75
10-----	42,709.21	2,743.47	6.42	1,633.26	3.82
3-----	58,800.74	3,472.08	5.90	2,026.48	3.45
28-----	54,233.59	940.29	1.73	812.29	1.50
7-----	22,400.92	364.69	1.63	516.46	2.31
29-----	13,805.45	34.74	.25	499.51	3.62
26-----	9,628.76	159.59	1.66	373.09	3.87
14-----	98,331.62	6,296.49	6.40	8,227.10	8.37
33-----	19,361.25	1,378.30	7.12	2,046.93	10.57
Total-----	1,168,525.72	147,283.68	-----	104,027.39	-----
Average-----	35,409.87	4,463.14	12.60	3,152.35	8.90

Source: Based on audit reports.

A further analysis was made of savings by comparing net savings before income tax and interest with the cost of fixed assets. All associations making major additions to facilities were excluded unless no returns were realized from the new facility and the cost of the facility could be excluded. Net savings as a percentage of investment in fixed assets in 21 associations averaged 11.34 percent and ranged from a loss of 0.68 percent to a savings of 24.24 percent (table 9). Seventy-six percent of these 21 associations had savings of more than 10 percent with only 2 associations showing a loss. Compared with the 6 preceding years (table 10), savings in 1946-47 were just about average.

Another measure of successful operation, and probably more important, is the ratio between net savings and total invested capital. Net savings represent the amount of money available for interest, dividends, income taxes, and patronage refunds. The total invested capital on which the rate of savings is calculated usually is taken as the sum of the capital stock, surplus and surplus reserves, and long-term debt. The average rate of savings on total invested capital was 6.5 percent for 1946-47. All 33 associations were used in the analysis. Recent increases in invested capital and borrowed funds, resulting from the construction of new facilities, tend to underestimate the true relationship.

Studies of operating statements show that no one factor is usually responsible for the level of savings in locker plants. However, analysis shows that as the percentage of processing income spent for labor increases there is a strong tendency for net savings, before income taxes and interest, to decline. To a lesser degree the amount of gross income per locker is important in determining the level of savings. Many other factors, such as management efficiency, rates charged, and investment in facilities, are important, however, in the successful operation of frozen food locker plants.

PROCESSING VOLUME

The total volume of meat and poultry processed by each association during the year and the average volume per locker rented are shown in table 11 and figure 3. The associations processed 7,734 tons of meat and poultry and averaged 394 pounds per locker rented. In 1945-46 the average was 425 pounds and in 1944-45 it was 384 pounds (table 12). These data indicate that the patrons on the average fill their lockers with meat and poultry about twice during the year. The rate of turnover, however, is somewhat greater as patrons also store about 30 pounds of fruits and vegetables per locker. Total volume of all products processed

Table 8. - Net savings as a percentage of gross income, Illinois locker cooperatives, 1940-41 to 1946-47

Year	Net savings before income tax and interest	Net savings after income tax and interest
	Percent	
1940-41-----	16.62	12.24
1941-42-----	20.51	15.59
1942-43-----	23.46	17.24
1943-44-----	18.02	13.31
1944-45-----	12.45	8.93
1945-46-----	14.44	10.39
1946-47-----	12.60	8.90

SOURCE: Based on audit reports.

Table 9. - *Net savings as a percentage of investment in fixed assets, before deduction of income tax and interest, for 21 Illinois locker cooperatives, 1946-47.*¹

Association	Fixed assets	Net savings	Net savings as percentage of fixed assets
13-----	\$22,086.00	\$5,353.53	24.24
15-----	13,128.82	2,721.49	20.73
30-----	16,291.73	2,716.89	16.68
25-----	38,764.48	5,854.80	15.10
8-----	81,058.32	12,099.89	14.93
19-----	44,954.64	6,469.81	14.39
27-----	27,138.30	3,782.09	13.94
6-----	34,659.19	4,730.09	13.65
16-----	8,281.14	1,067.25	12.89
2-----	102,960.32	12,799.31	12.43
32-----	39,664.81	4,824.37	12.16
9-----	28,234.24	3,335.01	11.81
21-----	38,018.89	4,395.25	11.56
17-----	37,939.16	4,355.86	11.48
24-----	47,464.07	5,373.79	11.32
11-----	45,972.14	5,148.75	11.20
12-----	69,847.19	5,915.01	8.47
20-----	45,608.58	3,712.51	8.14
31-----	71,356.53	4,037.97	5.66
29-----	31,771.15	34.74	.11
26-----	23,524.29	159.59	.68
Total or average----	\$868,723.99	\$98,499.34	11.34

¹Does not include associations making major additions to facilities unless no income was realized from new facility and the cost of such facility could be excluded.

Source: Based on audit reports.

per locker rented was 424 pounds for the year with beef and pork accounting for 89 percent; poultry, 4 percent; and fruits and vegetables, 7 percent.

Considerable variation was found among the associations in the volume processed per locker. One-third of the associations averaged over 400 pounds per locker while 15 percent averaged less than 300 pounds. Location of plants relative to producing areas, percent of nonproducer patrons using the plant, and ability of management to "sell" the processing services of the plant as well as educate patrons to fully utilize their lockers, are important factors affecting volume.

LABOR AND MANAGEMENT EFFICIENCY

The cost of labor and management is the largest expense item in locker plant operation. On the average 50 percent of all expenses in the 33 locker associations was for this item. Variations of from 34 percent to 59 percent were found among the associations. Wide variations were also found among plants in the same association.

The importance of this cost and the variations among the associations and individual plants warrant more detailed analysis. A measure frequently used to evaluate labor and management cost is to compare it with processing income. The measure merely shows how much of the processing income was spent for labor and management and does not measure the output of labor.

An accurate cost analysis would charge a portion of the labor and management cost to other departments of the plants such as lockers and sales. With such cost information unavailable, the entire expense of labor and management is compared with only the processing income. Income from lockers and sales was not included as the amount of labor used in these departments is relatively small and the income from these departments, comprising over half of total income, would obscure monthly variations in processing income. Also, the differences in locker rental rates among plants would introduce an additional variable into the analysis.

Table 13 shows by months the portion of each dollar of processing income that would be needed to pay total labor and management cost of the plants. The plants were grouped according to rate charged for cutting, wrapping, freezing, and grinding and classed according to services offered. Only the average for each class and group is shown. Group I plants charge \$3 per hundred pounds for cutting, wrapping, freezing, and grinding; group II plants charge \$2.50; and group III plants, \$2. Class 1 plants offer only cutting, wrapping, freezing, and grinding service. Class 2 plants offer in addition curing and smoking or rendering, and in most cases both. Class 3 plants offer slaughtering services as well as other services. Some of the class 3 plants, particularly in group II, slaughtered on the farm, with resulting inefficiencies in the use of labor, which accounted for some of the higher cost in this group.

Labor and management cost was highest per dollar of processing income in the months of July,

Table 10. - *Net savings as a percentage of investment in fixed assets before payment of income tax and interest, Illinois locker cooperatives,¹ 1940-41 to 1946-47*

Year	Net savings as a percentage of investment
1940-41-----	6.77
1941-42-----	11.20
1942-43-----	14.56
1943-44-----	12.98
1944-45-----	7.86
1945-46-----	10.00
1946-47-----	11.34

¹Excludes various associations for specific years when such associations were undertaking major expansion programs.

SOURCE: Based on audit reports.

Table 11. - Lockers rented, total poundage, and average pounds of meat and poultry processed per locker rented in 33 Illinois locker cooperatives, 1946-47

Association	Lockers rented ¹	Total poundage ²	Pounds per locker rented
17-----	1,101	637,639	579
27-----	333	191,094	574
15-----	462	262,602	568
9-----	765	432,666	566
2-----	2,628	1,464,031	557
4-----	972	479,641	493
16-----	568	253,674	447
11-----	1,244	542,068	436
14-----	3,012	1,302,510	432
22-----	1,883	800,693	425
23-----	1,050	446,318	425
18-----	1,920	766,387	399
6-----	1,007	399,651	397
10-----	1,527	600,725	393
32-----	627	246,015	392
5-----	2,436	925,051	380
13-----	798	303,036	380
3-----	2,099	785,094	374
12-----	1,711	637,353	373
21-----	578	211,881	367
1-----	1,552	550,866	355
25-----	740	257,784	348
30-----	360	125,053	347
33-----	636	220,122	346
7-----	1,037	338,169	326
20-----	946	306,204	324
31-----	947	301,999	319
24-----	737	226,104	307
26-----	383	111,926	292
29-----	562	161,220	287
8-----	1,548	437,935	283
28-----	2,001	500,000	250
19-----	1,115	242,154	217
Total or average-----	39,285	15,467,665	394

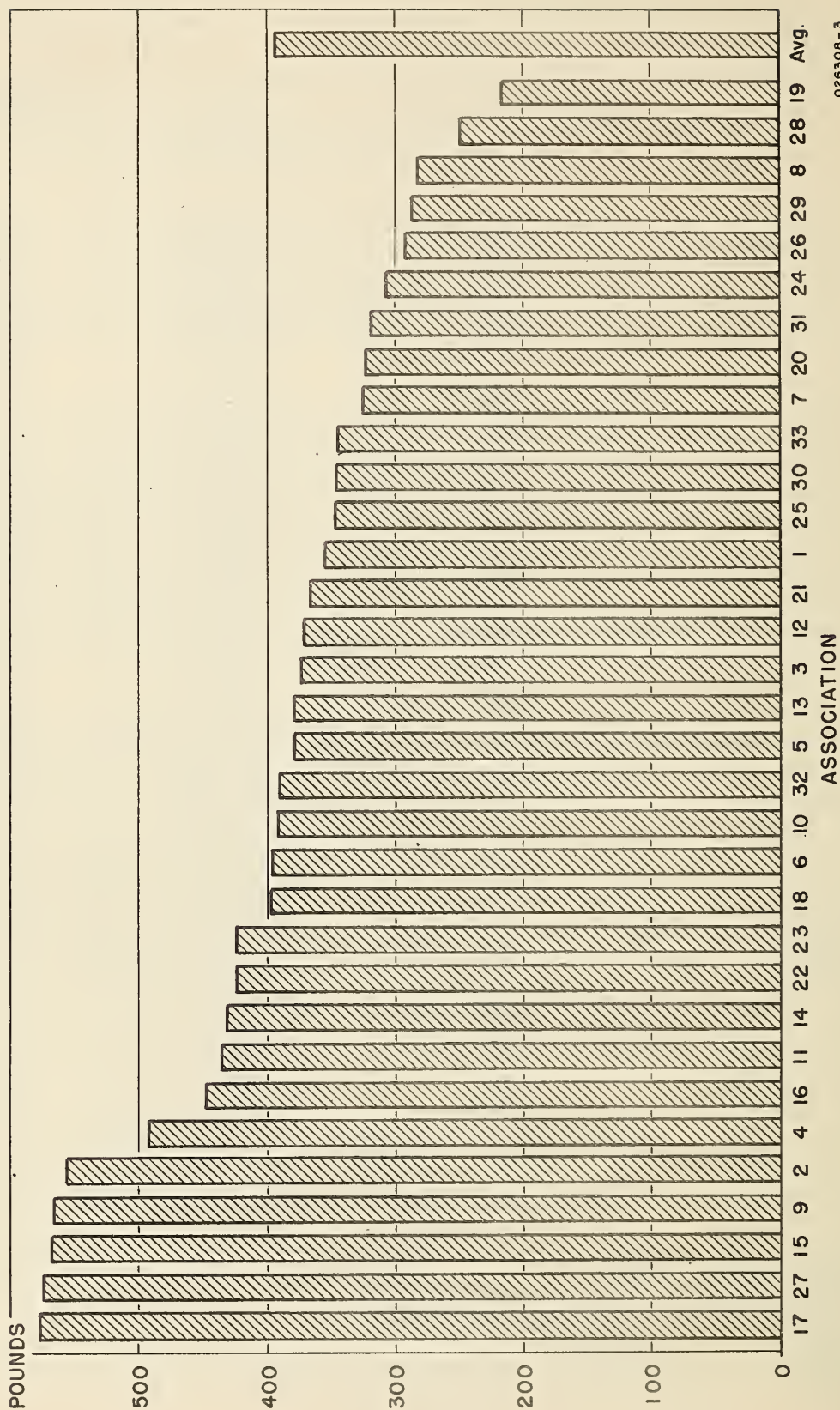
¹Lockers rented computed by dividing earned locker rental income by average rental rate. Includes temporary lockers.

²Poundage secured from association records or computed by dividing chill, cut, wrap, and freeze income by rate per pound for this service.

SOURCE: Based on audit reports and associations' records.

FIGURE 3

AVERAGE POUNDS OF MEAT AND POULTRY PROCESSED PER LOCKER RENTED PER YEAR, 33 ILLINOIS LOCKER COOPERATIVES, 1946-47



August, and September. The peak was reached in August when labor and management cost amounted to \$1.36 for each dollar of processing income. Lack of adequate volume during this period rather than increased cost of labor accounted for this undesirable condition. The most favorable months were December, January, and February. During this period processing volume was greatest and available labor was utilized most efficiently.⁴

In general, the 7 months from October through April were the most profitable for the processing department from the standpoint of labor utilization (fig.4). The large volume of beef and pork during the fall and winter months was largely responsible for this situation. During the remaining 5 months a lower processing volume combined with the relatively inelastic labor force resulted in a very unsatisfactory condition. Only in the month of June did processing income exceed total labor and management cost for the month and this was due largely to the processing of fruits and vegetables. Although fruit and vegetable processing is generally believed to bring in less income than it produces this would indicate that it is a worth-while service not only as a convenience to the patrons but as a source of revenue to pay the permanent work force during the period of low meat processing volume.

Considerable improvement has been made in matching the cost of labor and management with processing income compared with 1944 and 1945 although not as favorable as in 1946 (fig. 5). There is still a need to improve operations in the summer months through increased processing of poultry, fruits, and vegetables as well as evening out the flow of beef and pork processing throughout the year.

In general, it was found that plants with higher processing rates had lower labor cost per dollar of processing income. Group I plants had average labor and management cost of 87 cents per dollar of processing income compared with 94 cents and 96 cents in the lower rate groups. This would indicate that greater revenue from processing was responsible rather than any higher level of labor efficiency. The more complete plants had better labor and management cost-processing income ratio than the limited service plants. The information in table 13 indicates that class 2 and 3 plants generally had lower labor cost per dollar of processing income than class 1 plants. The exception in group II, as

Table 12. - *Average pounds of meat and poultry processed per locker rented per year, Illinois locker cooperatives, 1944-45 through 1946-47*

Year	Pounds per locker rented
1944-45-----	384
1945-46-----	425
1946-47-----	394

SOURCE: Based on audit reports and associations' records.

⁴Labor and management efficiency, as used in this analysis, is defined as the amount of salaries and wages paid in a given period compared with the total receipts from processing during the same period. It does not measure the productivity of labor.

Table 13. - Labor and management cost per dollar of processing income, by months, 1946-47

Services ¹	Number of plants	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
Group I														
Class 1-----	2	.66	.67	.66	.69	.89	1.02	1.07	2.08	1.35	1.32	1.25	.69	.91
Class 2-----	4	.57	.69	.86	.84	.90	.92	1.46	1.38	1.14	1.18	1.07	.81	.90
Class 3-----	2	.63	.65	.73	.74	1.01	.82	.81	1.17	.89	.66	.76	.68	.76
Average-----	8	.60	.68	.78	.83	.92	.92	1.19	1.45	1.12	1.00	.99	.75	.87
Group II														
Class 1-----	10	.78	.80	.93	.85	.96	.87	.95	1.23	1.36	.75	.88	.82	.90
Class 2-----	9	.63	.72	.84	.81	.87	.73	.90	1.06	1.22	.86	.83	.66	.82
Class 3-----	9	.90	1.09	1.02	1.05	1.08	1.18	1.31	1.40	1.27	.90	1.07	.92	1.08
Average-----	28	.76	.87	.93	.92	.98	.92	1.07	1.23	1.27	.85	.94	.80	.94
Group III														
Class 1-----	6	.89	1.00	1.04	1.04	1.25	1.03	1.19	1.68	1.55	.92	1.21	1.07	1.11
Class 2-----	11	.66	.86	1.14	1.09	1.37	1.07	1.17	1.39	1.07	.76	1.08	.74	.99
Class 3-----	5	.75	.85	1.32	1.25	1.06	.88	1.32	1.59	1.21	.90	.86	.81	1.01
Average-----	22	.73	.88	1.18	1.13	1.23	.99	1.22	1.50	1.19	.84	1.00	.80	1.01
Combined average--	58	.72	.84	.99	.97	1.05	.95	1.14	1.36	1.22	.86	.97	.79	.96

¹Plants grouped according to rate charged per hundred pounds for cutting, wrapping, freezing, and grinding as follows: Group I, \$3.00; group II, \$2.50; and group III, \$2.00. Class 1 plants offer cut, wrap, freeze, and grind service. Class 2 plants offer cut, wrap, freeze, and grind service plus rendering or curing and smoking. Class 3 plants offer slaughter, cut, wrap, freeze, and grind services, but may also render, cure, and smoke.

SOURCE: Based on association's records.

FIGURE 4

LABOR AND MANAGEMENT COST COMPARED WITH PROCESSING INCOME, ILLINOIS COOPERATIVE LOCKER PLANTS, 1946-47

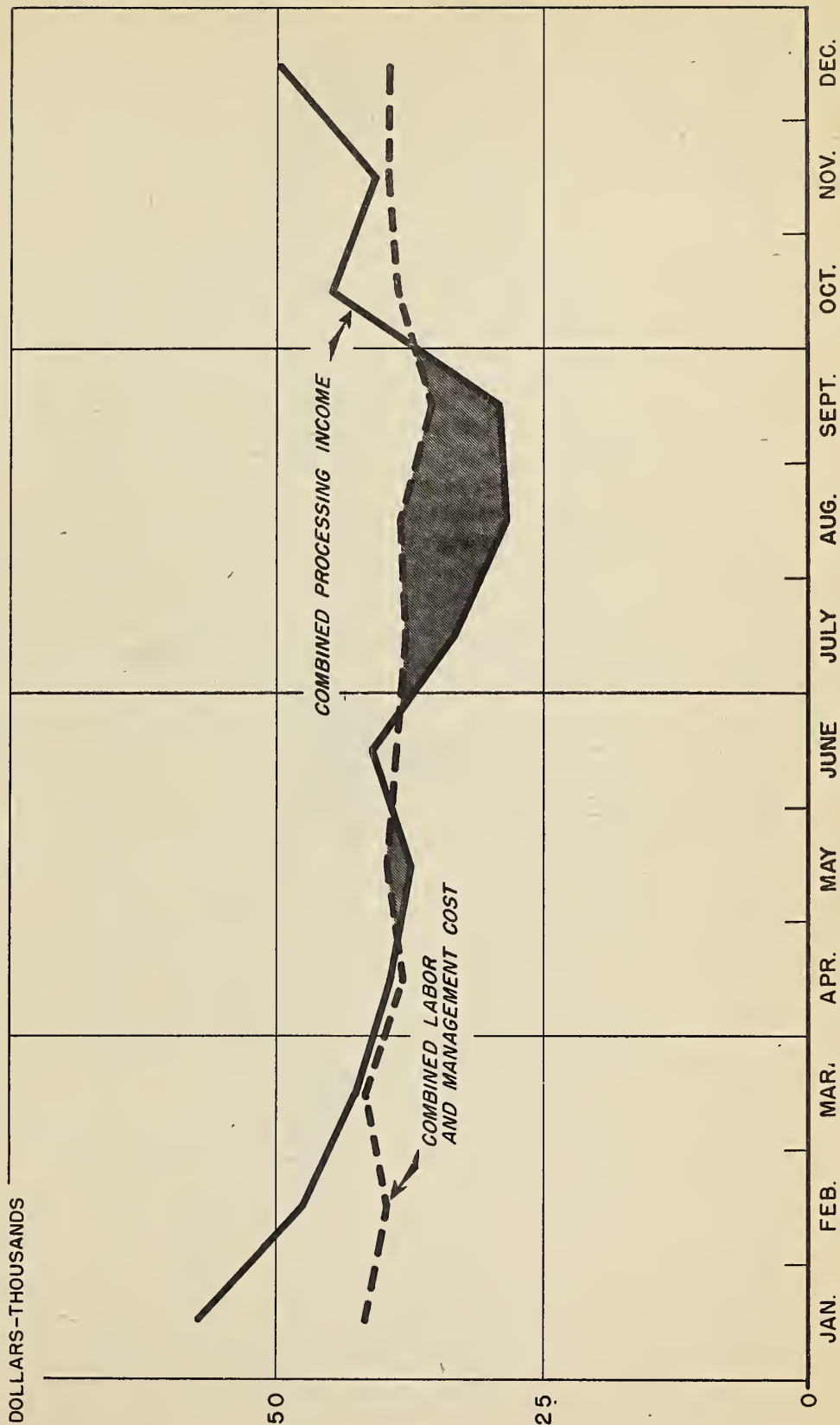
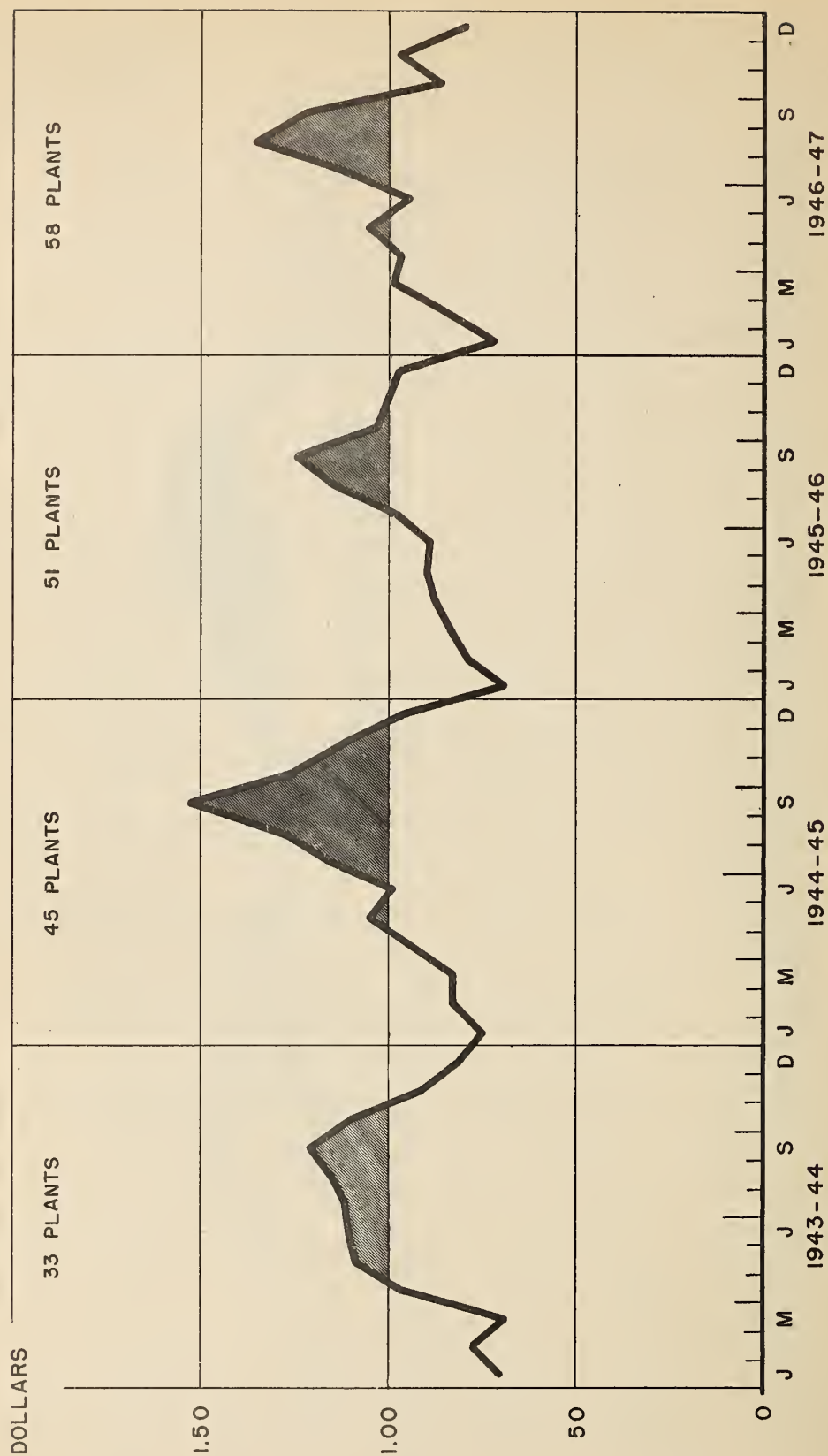


FIGURE 5

LABOR AND MANAGEMENT COST PER DOLLAR OF PROCESSING INCOME ILLINOIS COOPERATIVE LOCKER PLANTS, 1943-44 TO 1946-47



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explained previously, was largely due to the inefficiencies associated with farmslaughtering. The more complete plants have several advantages not found in the limited service plants. First, some of the supplemental services such as curing and smoking apparently leave a greater margin at present rates than cutting, wrapping, and freezing; second, the percentage of the greater total revenue spent for overhead or fixed costs is believed to be smaller; and third, the greater total volume of business permits more opportunity for efficient utilization of labor.

An analysis of average labor and management cost per dollar of processing income for the past 4 years is shown in table 14. Considerable variation was found from year to year. Variations in total volume processed, seasonality of volume processed, and actual inefficiencies resulting from labor turnover were in large measure responsible. Equally important, however, are the increases in labor rates and processing charges in the period. Inasmuch as the increases in these items varied in both proportion and in time, some difference would be expected had other factors such as volume and labor efficiency remained constant.

In order to determine the importance of processing rates, volume, services, and related factors in this measure of labor efficiency or utilization, analysis was made of the 10 plants with the lowest labor and management cost per dollar of processing income and the 10 plants with the highest labor and management cost per dollar of processing income. The plants with the lowest cost, termed the most efficient plants, had an average expense of 71 cents for labor and management per dollar of processing income while the plants with the highest cost, the least efficient plants, averaged \$1.21.

The most efficient plants had an average processing rate of \$2.60, and the least efficient plants averaged \$2.40 - not a significant difference. On services performed, however, the most efficient plants were found to be considerably more complete. Among the most efficient plants, 6 cured and smoked, 7 rendered lard, and 1 slaughtered. Four of the plants cured, smoked, or rendered for 11 other plants. Among the least efficient plants, only 3 cured and smoked, 3 rendered lard, and 6 slaughtered. Three of the 6, however, slaughtered on the farm - which was found to be relatively inefficient compared with slaughtering in a slaughter facility. Only one plant in the least efficient group cured and smoked for other plants. Analysis of volume showed that the most efficient plant processed approximately 11 percent more products per locker than the other group.

The combined processing income and combined labor and management cost for the two groups are shown

Table 14. - Total labor and management cost per dollar of processing income, Illinois cooperative locker plants, 1943-44 to 1946-47

Year	Number of plants	Cost per dollar of processing income
1943-44-----	33	\$0.92
1944-45-----	45	1.01
1945-46-----	51	.92
1946-47-----	58	.96

SOURCE: Based on associations' records.

in figures 6 and 7. Combined processing income exceeded combined labor and management cost in all months in the most efficient plants compared with only two months in the least efficient plants. Processing income averaged \$8,435 per plant for the most efficient group, and labor and management cost averaged \$5,975. In the least efficient plant the processing income averaged \$7,542 per plant and labor and management cost, \$9,128. It was found, however, that the seasonal trend in processing income and in labor and management payments were approximately the same in both groups.

The analysis indicated that neither the seasonality of processing income nor the management of the labor force was primarily responsible for the difference between the two groups in this processing-income and labor-and-management-cost relationship. Rather it indicates that differences in number of services offered, total volume processed, processing charges to some extent, hourly labor rates, and the actual need for all personnel employed were the factors responsible for the differences in degree of labor and management utilization.

It is possible to make some general observations from this analysis. The most important are:

1. Most of these plants suffer from a substantial decline in processing volume during the summer and early fall months - particularly during July, August, and September. More emphasis needs to be placed on increasing the volume of poultry, fruits, and vegetables during this period.
2. The size of the labor force is relatively inelastic compared with fluctuations in processing volume.
3. The supplemental services of curing, smoking, and lard rendering appear to produce favorable margins at present rates.
4. Slaughtering service, when slaughtering facilities are provided by the association, results in above-average net savings. To date, however, low volume and inexperienced personnel have tended to make labor and management cost per dollar of processing income high in several plants offering the service.
5. The wide variations in labor and management cost per dollar of processing income among plants comparable as to size, rates, and services emphasize the need for improving labor efficiency and utilization in many plants.

POWER CONSUMPTION

Power and light costs are, on the average, the third largest expense in locker plant operation. Because of the general interest in the amount of power consumed by locker plants, an analysis was made of kilowatt-hours consumed in a representative group. For comparative purposes the

FIGURE 6

LABOR AND MANAGEMENT COST COMPARED WITH PROCESSING INCOME IN 10 MOST EFFICIENT PLANTS, 1946-47

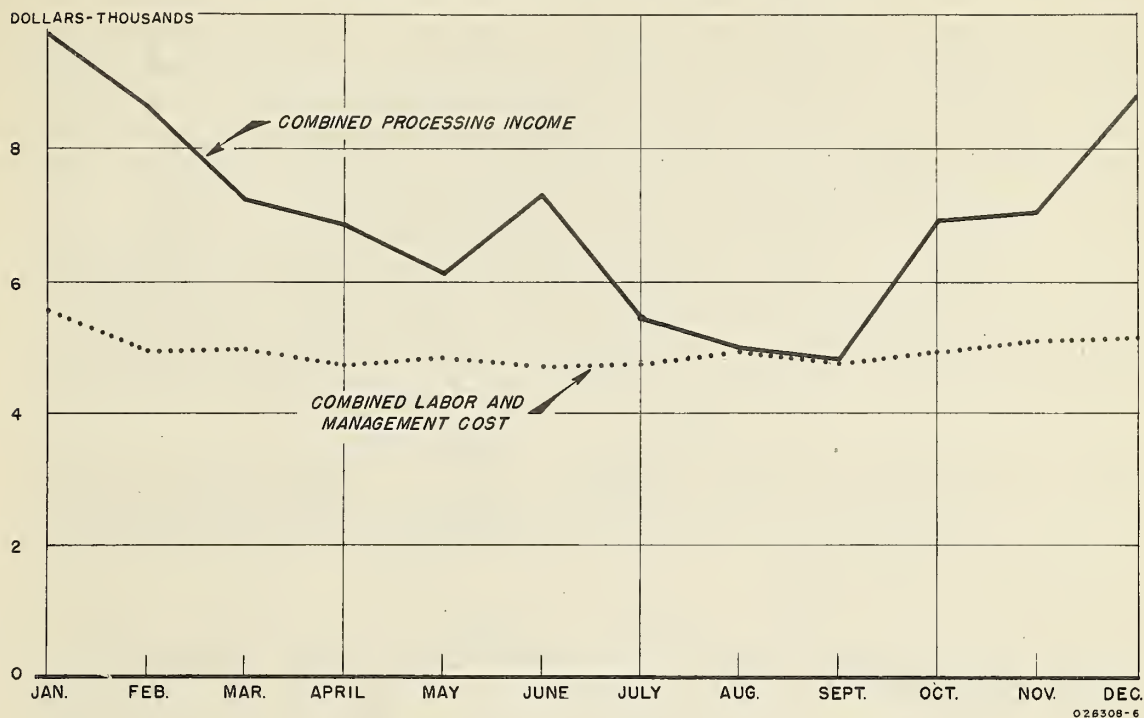
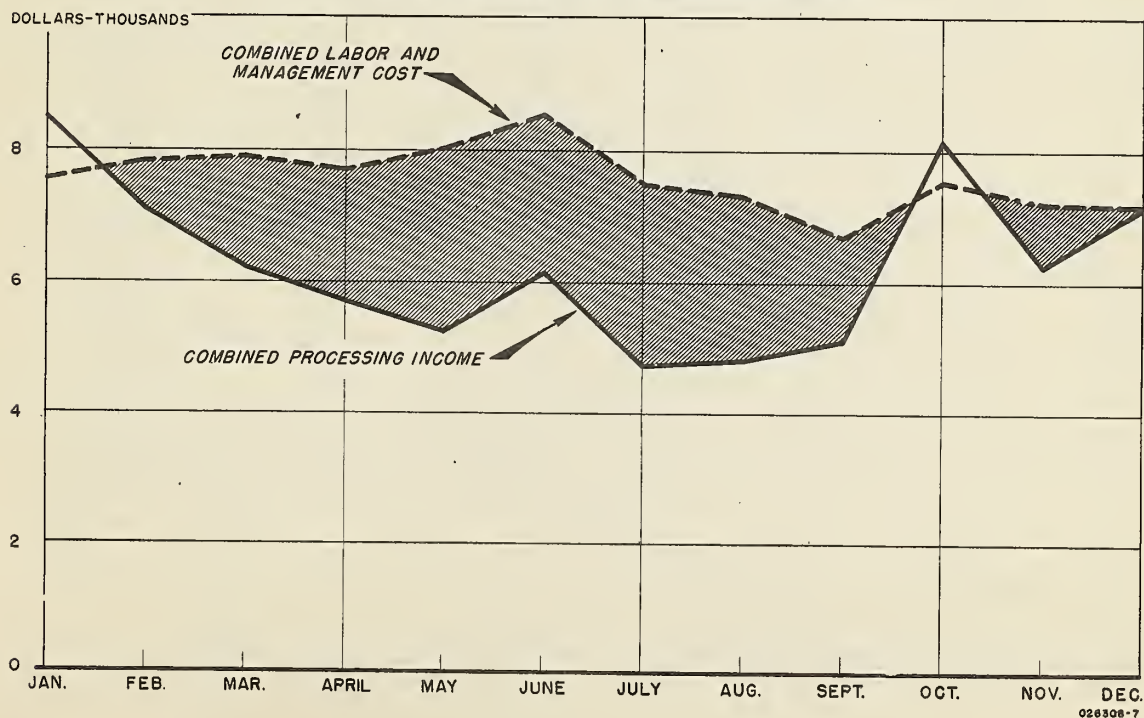


FIGURE 7

LABOR AND MANAGEMENT COST COMPARED WITH PROCESSING INCOME IN 10 LEAST EFFICIENT PLANTS, 1946-47



information is shown on the basis of average kilowatt-hours consumed per locker capacity⁵ by months.

The highest power consumption occurs during the warm months from may through October, and lowest consumption during the late fall and winter months (fig. 8). Average annual consumption for 44 plants in 1946-47 was 73 kilowatt-hours per locker capacity, but ranged from 45 to 139 kilowatt-hours. The wide range is believed to be due to differences in efficiency of insulation and refrigeration equipment, water temperatures, volume of space refrigerated, processing services offered, and total volume processed. It was found that few of the low power-consuming plants had curing rooms or processed for branch plants, while most of the high power-consuming plants had curing rooms and did considerable processing for other plants. There was also some indication that the type of refrigerant used had some effect on the amount of power consumed.

The analysis shows that average yearly power consumption per locker capacity has been increasing steadily. Table 15 indicates that the average of 73 kilowatt-hours consumed in 1946-47 was 6 kilowatt-hours more than the previous year and 13 kilowatt-hours more than the average of the first 2 years shown.

⁵The term "locker capacity" is defined as the number of lockers that can be installed in existing zero-temperature rooms. On the average one locker requires 13.6 cubic feet of space.

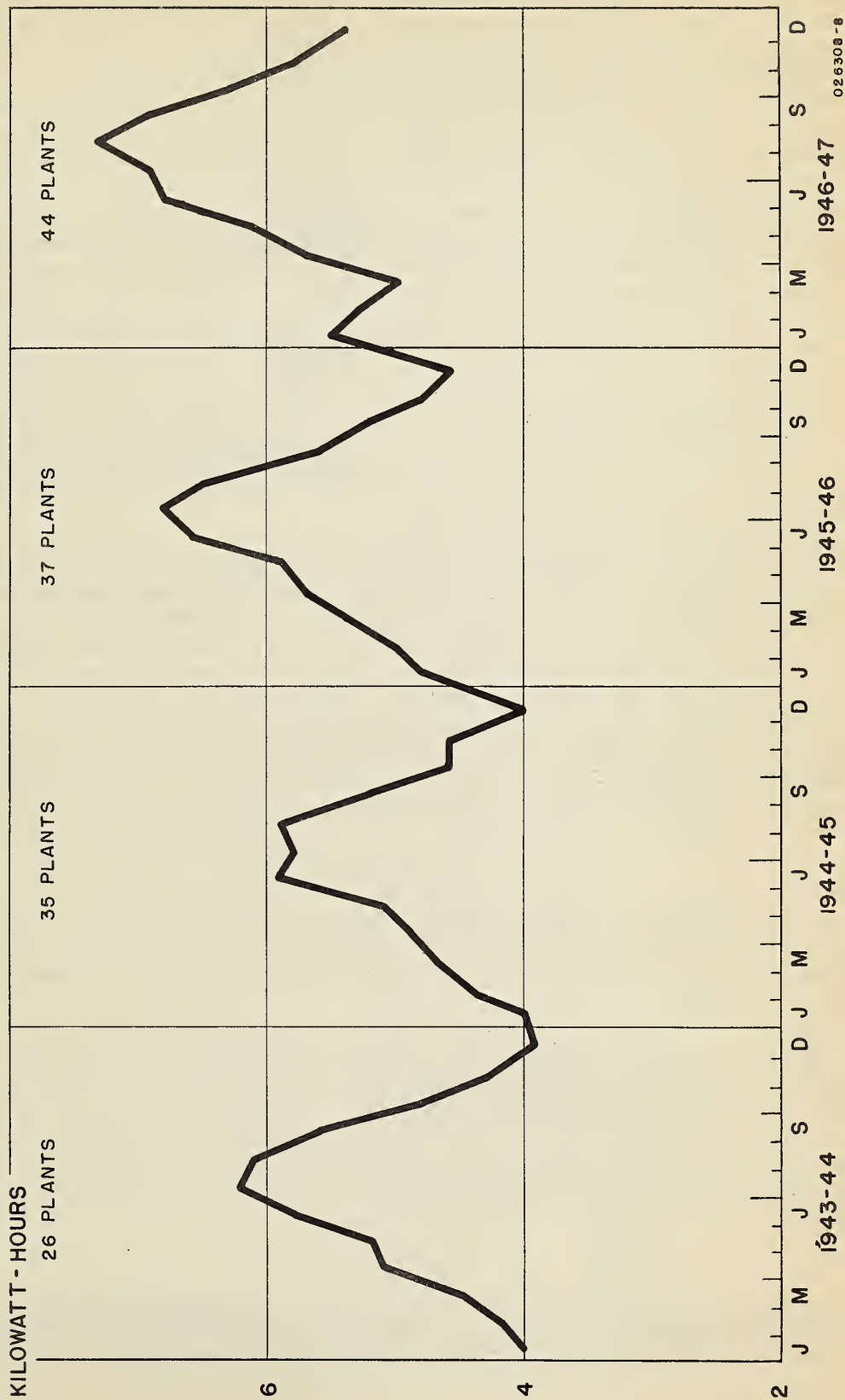
Table 15. - *Kilowatt-hours of electricity consumed per locker, based on total capacity, in Illinois cooperative locker plants, by months, 1943-44 through 1946-47*¹

Month	1943-44	1944-45	1945-46	1946-47
January-----	4.0	4.0	4.8	5.5
February-----	4.2	4.4	5.0	5.3
March-----	4.5	4.7	5.4	5.0
April-----	5.1	4.9	5.7	5.7
May-----	5.1	5.1	5.9	6.1
June-----	5.8	5.9	6.6	6.8
July-----	6.2	5.8	6.8	6.9
August-----	6.1	5.9	6.5	7.3
September-----	5.6	5.2	5.6	6.9
October-----	4.8	4.6	5.2	6.3
November-----	4.3	4.6	4.8	5.8
December-----	4.0	4.0	4.6	5.4
Total-----	59.7	59.1	66.9	73.0

¹Excludes plants that do no processing.

SOURCE: Based on associations' records.

FIGURE 8
 AVERAGE KILOWATT-HOURS CONSUMED PER LOCKER, ILLINOIS
 COOPERATIVE LOCKER PLANTS, 1943-44 TO 1946-47



Inasmuch as a different number of plants were analyzed in each year, an additional comparison was made of power consumption for 1943-44 and 1946-47 of just those plants having data for both periods (table 16). The 18 plants used showed an increase in kilowatt-hours consumed per locker capacity of 10 kilowatt-hours per year. It should be recognized that some of this increase was due to additional services offered in the latter year. It is suspected, however, that a considerable portion of the increase was due to decline in efficiency of insulation and refrigeration equipment.

Table 16. - Average kilowatt-hours of electricity consumer per locker capacity in 18 Illinois cooperative locker plants, 1943-44 and 1946-47

Month	1943-44	1946-47
January-----	3.95	5.05
February-----	4.18	4.88
March-----	4.58	4.91
April-----	5.22	5.53
May-----	5.51	6.15
June-----	6.05	6.67
July-----	6.34	6.85
August-----	6.13	7.31
September-----	5.69	6.60
October-----	4.95	6.25
November-----	4.30	5.67
December-----	3.97	5.24
Total-----	60.87	71.11

SOURCE: Based on associations' records.

All the plants in the prior analyses offer some processing services. Power is used not only to refrigerate the locker room and for lights but also in operating the chilling, aging, sharp freezing, and curing rooms as well as in the processing room. In table 17 kilowatt-hour consumption is shown for 8 plants offering no processing service. In these plants power is used only to refrigerate the locker room and for lights. These plants average approximately 53 kilowatt-hours per locker capacity per year or 20 kilowatt-hours less than the plants that process. As the number of plants used is small, it would not be correct to say that the difference of 20 kilowatt-hours per locker is due entirely to processing. It does, however, give some indication of the power required for processing.

SLAUGHTER PLANTS⁶

The furnishing of slaughtering services by locker plants is increasing as indicated by a survey of 340 cooperative plants made in 1947. Thirty-four percent of the plants reporting indicated that slaughter facilities were operated.

Eighteen Illinois associations either are now operating or have in process of construction 19 slaughter facilities. These 19 plants will render slaughtering service for 45 locker plants with approximately 26,000 lockers installed. Location and number of plants served as shown by figure 9 and table 18. Seven of these slaughter plants serve only 1 locker plant, 4 serve 2, 3 serve 3, 4 serve 4, and 1 serves 5 locker plants.

⁶Because of increased interest and expansion of slaughtering services by locker plants, a special survey was conducted in Illinois and several other States. A detailed report of this survey will be published at a later date.

TYPE OF SLAUGHTER FACILITIES

Facilities varied from simple, inexpensive buildings and equipment costing approximately \$2,000 to modern, fully equipped, complete centralized slaughter, processing, and freezing plants costing in excess of \$100,000.

Size of slaughter rooms ranged from less than 300 square feet to over 1,000 square feet. Two of the small plants had no refrigerated chill rooms while 9 used chilling and aging facilities of connecting locker plants and 8 provided chilling rooms at slaughter plants. In addition to chilling facilities 2 large central-processing plants provide complete facilities for cutting, wrapping, freezing, curing, smoking, lard rendering, and poultry dressing. Nine of the slaughter plants were built in connection with locker plants while 10 were not.

Equipment ranged from plants using hand hoists and no scalding vats for hogs to plants with facilities quite comparable to those of small commercial packing plants - that is, equipment such as electric hoists, scalding vats, and dehairing machines.

Services offered vary from simple slaughtering and dressing at the plant to complete processing, freezing, wrapping, curing, and smoking for several branch locker plants.

RATES

Rates charged per head for slaughtering ranged as follows:

Cattle----	\$1.50 to \$5.00-----	most common--	\$2.50 to \$3.50
Hogs-----	1.50 to 3.50-----	most common---	1.50 to 2.00
Calves-----	1.00 to 2.50-----	most common---	1.50 to 2.50
Sheep-----	1.00 to 2.00-----	most common---	1.50
Chickens----	12¢ to 25¢-----	most common---	15¢ to 20¢
Turkeys----	50¢-----	most common---	50¢

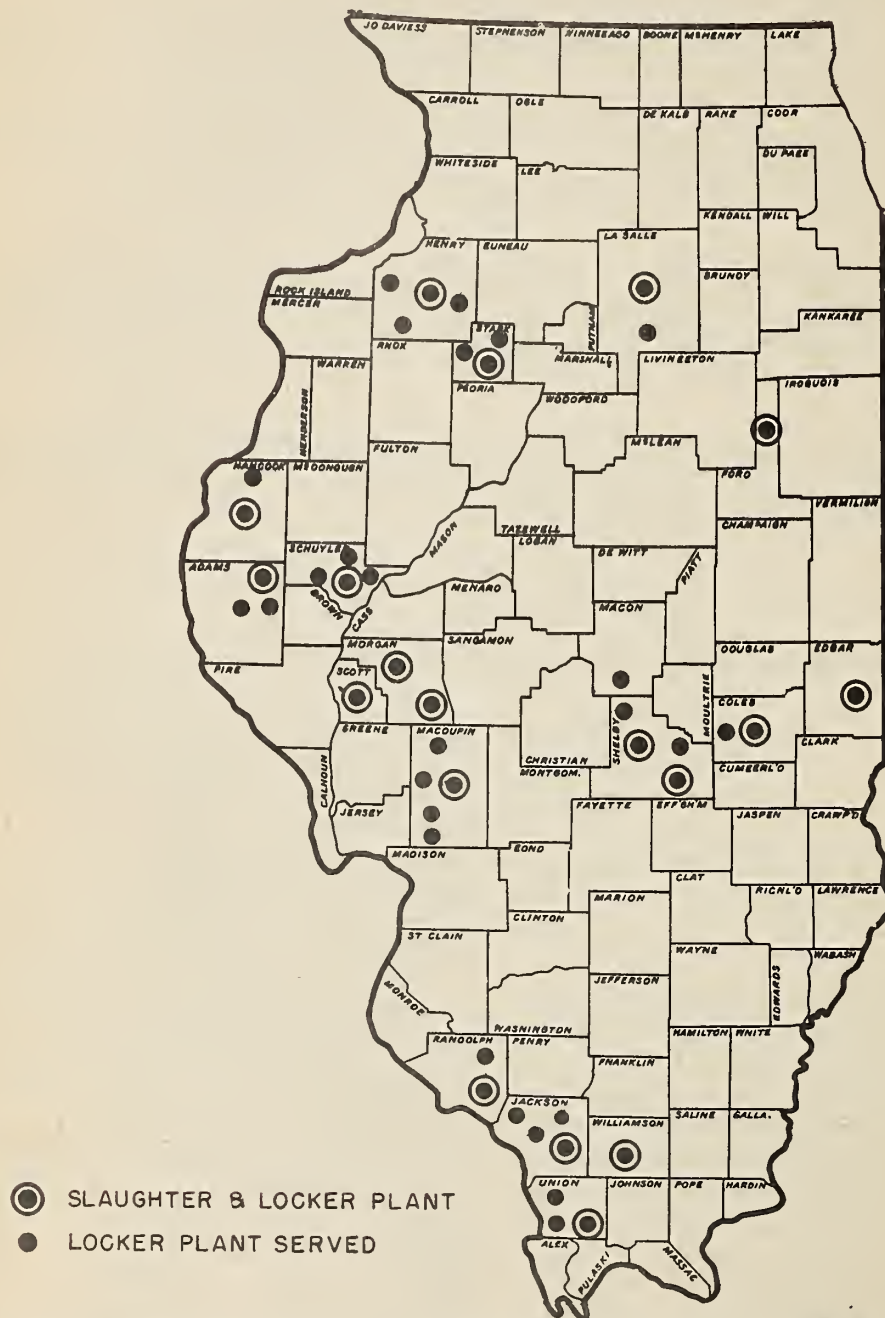
The importance of income from slaughtering and inedible sales in associations offering slaughter service compared with income from inedible sales alone in associations not having slaughter facilities is shown in table 19. Approximately 16 percent of total income was received by the slaughter group compared with less than 6 percent for the non-slaughter associations. Stated in another way, slaughtering and inedible sales increased gross

Table 17. - *Kilowatt-hours of electricity consumed per locker, based on total capacity, in 8 Illinois cooperative locker plants offering no processing services, by months, 1946-47*

Month	Kilowatt-hours consumed	Month	Kilowatt-hours consumed
January--	3.3	July----	5.5
February--	3.2	August---	6.1
March----	3.0	September	6.2
April----	3.4	October--	5.1
May-----	4.0	November	4.0
June-----	5.8	December	3.3
		Total--	52.9

SOURCE: Based on associations' records.

FIGURE 9
LOCATION OF SLAUGHTER PLANTS
WITH LOCKER PLANTS SERVED



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Table 18. - Location of slaughter plants, number of locker plants, and total lockers served

Slaughter plant	Locker plants served	Total lockers served
Cambridge-----	4	2,900
Carlinville-----	5	3,568
Carbondale-----	4	2,824
Carthage-----	2	830
Chapin-----	1	449
Charleston-----	2	1,742
Golden-----	3	1,116
Ottawa-----	2	736
Paris-----	1	1,059
Piper City-----	1	342
Rushville-----	4	1,541
Shelbyville-----	4	1,697
Stewardson-----	1	600
Steelville-----	2	968
Waverly-----	1	615
Winchester-----	1	375
Wyoming-----	3	1,843
Marion-----	1	1,000
Dongola-----	3	1,795
Total-----	45	26,000

SOURCE: Based on association's records.

income by 19 percent in the slaughtering associations compared with 7 percent from inedible sales for those without slaughter facilities.

VOLUME SLAUGHTERED

Information on volume slaughtered was rather sketchy and was limited to only a half dozen associations. Volume slaughtered ranged from 120 to 674 cattle and calves and from 319 to 803 hogs per plant per year.

From information available, it appears in most instances that the volume of livestock slaughtered is less than half the total volume of beef and pork processed through the locker plants served. This would seem to indicate that either patrons are still slaughtering a substantial volume on farms, are having it done by private custom slaughtering agencies, or are purchasing packer beef and pork in carcass form. Another factor which has tended to reduce volume has been the extremely high price for live animals which tended to restrict purchases, especially for nonfarm patrons. Several plants reported that some farm patrons preferred to sell their cattle and purchase quarters or sides of packer beef or pork.

Table 19. - *Total income per locker rented, from slaughtering and inedible sales, and percentage items are of total income, Illinois locker cooperatives, 1946-47*

Association	Income per locker rented		Percentage of gross income from slaughtering and inedible sales
	Total	Slaughter and inedible sales	
21-----	\$37.56	\$10.42	28
5-----	33.99	7.22	21
19-----	23.79	5.01	21
27-----	47.34	9.47	20
23-----	39.68	7.50	19
12-----	28.75	4.12	14
20-----	24.32	3.40	14
31-----	28.07	1.71	6
28-----	27.10	1.43	5
Average-----	30.72	4.95	16
Average - 18 non-slaughtering associations-----	\$28.88	¹ 1.92	6

¹Income from inedible sales only. Associations have no slaughtering income.

SOURCE: Based on audit reports.

If estimated potential slaughter capacity of the plants were utilized, it appears that the present volume is only about one-third of what could be slaughtered. In presenting these rough estimates, it should be recognized that none of the larger plants were in operation during the period studied and that in most of the smaller plants slaughtering is a new type of service.

CONCLUSIONS

Locker plants are fast nearing the time, if it has not already arrived, when they will have to tighten up on operating methods, eliminate inefficiencies, and improve management practices if they are to succeed. Since World War II, most plants have enjoyed practically full capacity locker rentals. With increased competition from other locker plants, home units, and retail stores this situation could easily change. Among some of the problems to be faced are:

1. Higher operating costs.
2. Higher construction and replacement costs.
3. Stiffer competition.
4. More difficult financing.
5. Demand for improved and expanded services

In order to successfully meet these problems, management needs to study carefully the various internal operations to determine which ones pay their way and which ones do not.

Our studies have shown that, in many locker plants, processing as such has not been profitable operation and locker rentals have partially subsidized processing operations. In such cases either efficiencies need to be developed in processing, volume process per locker increased, or rates need to be raised.

The rapid increase in cost of plant facilities should concern those associations contemplating expansion or construction of new plants. In most instances the increased cost must be accompanied by an increase in rental and processing rates. There is a danger that substantial rate increases may wipe out much of the economy to the patron in this method of food processing and could result in reduced patronage. For that reason every effort should be made to make most efficient and maximum use of facilities and labor to cut cost of operation. In some cases it may be more practicable to concentrate upon increasing volume and reducing costs with present facilities before entering upon an expanded program.

Our studies indicate that nearly 70 percent of the associations processed less than 400 pounds of meat and poultry per locker and 15 percent were under 300 pounds. Spot checks by managers of several associations have shown that a sizable proportion of locker patrons spend less than \$5 per year for processing. The use of locker facilities by this type of patron is unprofitable both to the locker plant and to the patron and efforts should be directed either toward increasing processing volume or encouraging patrons to purchase more products through the cooperative.

Too many patrons do not live out of their locker but use it as a sort of hoarding or insurance device to be used only on special occasions or when food cannot be obtained elsewhere. To date too little has been done to "sell" the patron on the advantages of locker service. An aggressive and effective selling job is needed to increase volume and improve operating returns.

Because of higher construction and equipment costs it may be necessary for associations to consider setting up higher depreciation rates in order to make needed replacements when it becomes necessary.

Up to the present time many locker plants have scratched only the surface of possibilities which lie before them. Looking into the future it would appear that they can play an increasingly important role in the marketing, processing, storing, and distributing of high-energy foods. Among some of the major possibilities are:

1. Provide a better market for locally produced meat, poultry, and to a limited extent of fruits and vegetables. Slaughter and process livestock and poultry either on a custom basis or for sale. More consideration needs to be given poultry processing as a means of increasing processing income and better utilization of labor during slack summer and fall months. In some localities the processing of high-quality fruits and berries also offers some possibilities.

Locker plants by providing high-temperature storage space can also act as assembling, grading, storing, and marketing agencies for locally produced eggs, and to a more limited extent of fruits and vegetables.

2. The production of high-quality cured hams, bacon, and sausage offer another possibility for marketing some of their members surplus hogs to town patrons, retail stores, restaurants, and hotels.

3. The processing of meat and poultry for home-freezer units is still another means of increasing volume. The results of an experiment carried on by the "Mother Zero" locker plant at Ithaca, New York, showed an increase of approximately 50 percent in processing volume, due to the servicing of a large number of home units.

4. While it is recognized that opportunities for sale of commercial frozen foods are greater in larger towns, it is surprising how much of this product has been sold to farm patrons in small towns with an aggressive merchandising program. The manufacture and sale of ice cream is another worth while service. The low temperature storage provided by the locker plant also offers possibilities for bulk storage of commercial frozen food and dairy products for local retail stores, restaurants, and hotels.

5. Locker plants need to give more attention to efficient utilization of both edible and inedible byproducts which are among the most profitable sources of income to commercial packers. With the increased

number of slaughtering facilities, it may be practicable to centralize the inedible operations in a few large rendering plants. The manufacture and sale of dogfood is another service which has been a profitable source of income to some plants.

To operate successfully in the future, locker plants will need not only to expand, diversify, and improve their services along these lines, but also to improve their operating efficiency.

The problems and possibilities in each independent plant and association are not analyzed in this report. We have attempted to point out only the broad aspects of operations.

To obtain maximum benefit of the findings of this study, it is suggested that managers and directors of each association study this report carefully and compare their association's plant operations with the most efficient plants and with the average in order to find where improvements are needed.

